VOLUME 401 NUMBER 2, PART 3

THE ASTROPHYSICAL JOURNAL

1992 ANNUAL INDEX

BY AUTHORS AND BY SUBJECTS

PARTS 1 AND 2

VOLUMES 384–401

(1992 January 1 to 1992 December 20)

SUPPLEMENT SERIES

VOLUMES 78–83

(1992 January to 1992 December)

PUBLISHED BY THE UNIVERSITY OF CHICAGO PRESS FOR
THE AMERICAN ASTRONOMICAL SOCIETY

THE ASTROPHYSICAL JOURNAL

1992 ANNUAL INDEX

BY AUTHORS AND BY SUBJECTS

PARTS 1 AND 2

VOLUMES 384–401

(1992 January 1 to 1992 December 20)

SUPPLEMENT SERIES

VOLUMES 78–83

(1992 January to 1992 December)

PUBLISHED BY THE UNIVERSITY OF CHICAGO PRESS FOR
THE AMERICAN ASTRONOMICAL SOCIETY

©1992 by The American Astronomical Society. All rights reserved.

Compiled by the staff of *The Astrophysical Journal*
Processed by computer programs developed by Evan Owens
Typeset using PC TEX
Printed by Capital City Press, Inc., Montpelier, Vermont

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48–1984.

CONTENTS

AUTHOR INDEX 1
SUBJECT HEADINGS 125
SUBJECT INDEX 129

THE ASTROPHYSICAL JOURNAL

AUTHOR INDEX

AANNESTAD, PER A. On Graphite and the Variations in the Ultraviolet Extinction Curve. *Per A. Aannestad.* 386, 627, 33-B5 (1992)

AARSETH, S. J. Tidal Evolution of Globular Clusters. I. Method. *K. S. Oh, D. N. C. Lin, & S. J. Aarseth.* 386, 506, 31-F4 (1992)

ABBOTT, D. C. The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

ABBOTT, TIMOTHY M. C. Eclipse Maps of the Accretion Disk in the Classical Nova V Persei. *Janet H. Wood, Timothy M. C. Abbott, & Allen W. Shafter.* 393, 729, 124-G10 (1992)

Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

ABRAHAM, R. G. On the Uncertainties in the Properties of Quasar Host Galaxies. *R. G. Abraham, C. S. Crawford, & I. M. McHardy.* 401, 474, 228-E9 (1992)

ABT, HELMUT A. The Astrophysical Journal Videotapes. *Helmut A. Abt.* 393, 1, 114-B1 (1992)

Spectroscopic Binaries in the α Persei Cluster. *Nidia Morrell & Helmut A. Abt.* 393, 666, 124-B1 (1992)

Announcement: Some Rate Increases in 1993 Due to Inflation. *Helmut A. Abt.* 396, 1, 155-B1 (1992)

ACHILLEOS, N. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)

ACHTERMANN, J. M. The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

ADAMS, FRED C. A Topological/Geometrical Approach to the Study of Astrophysical Maps. *Fred C. Adams.* 387, 572, 45-G1 (1992)

Interpreting Infrared Color-Color Diagrams: Circumstellar Disks around Low- and Intermediate-Mass Young Stellar Objects. *Charles J. Lada & Fred C. Adams.* 393, 278, 117-E12 (1992)

Near-resonant Excitation and Propagation of Eccentric Density Waves by External Forcing. *Eve C. Ostriker, Frank H. Shu, & Fred C. Adams.* 399, 192, 197-E13 (1992)

ADAMSON, A. J. See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

Spectropolarimetry of the 5797 Å Diffuse Interstellar Band. *A. J. Adamson & D. C. B. Whittet.* 398, L69, 188-C1 (1992)

ADLER, DAVID S. Ambiguities in the Identification of Giant Molecular Cloud Complexes from Longitude-Velocity Diagrams. *David S. Adler & William W. Roberts, Jr.* 384, 95, 2-B12 (1992)

A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)

ADORF, H.-M. Properties of the SN 1987A Circumstellar Ring and the Distance to the Large Magellanic Cloud: Erratum. *N. Panagia, R. Gilmozzi, F. Macchetto, H.-M. Adorf, & R. P. Kirshner.* 386, L31, 29-E1 (1992) (Orig. paper in 380, L23, 181-D1 (1991))

AGGARWAL, K. M. Al II Emission-Line Strengths in Low-Density Astrophysical Plasmas. *F. P. Keenan, L. K. Harra, K. M. Aggarwal, & W. A. Feibelman.* 385, 375, 16-E1 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

Collision Strengths and Excitation Rate Coefficients for Transitions in Ca XV. *K. M. Aggarwal.* 80, 453, 28-F3 (1992)

Excitation Rate Coefficients for Transitions among the $n = 1$, 2, and 3 Levels of He^+. *K. M. Aggarwal, J. Callaway, A. E. Kingston, & K. Unnikrishnan.* 80, 473, 28-G13 (1992)

Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

AGLIETTA, M. Search for 100 TeV γ-Ray Emission from the Galactic Disk. *M. Aglietta, B. Alessandro, F. Arneodo, L. Bergamasco, A. Campos Fauth, C. Castagnoli, A. Castellina, C. Cattadori, A. Chiavassa, G. Cini, B. D'Ettorre Piazzoli, W. Fulgione, P. Galeotti, P. L. Ghia, G. Mannocchi, C. Morello, G. Navarra, L. Riccati, O. Saavedra, G. C. Trinchero, P. Vallania, & S. Vernetto.* 397, 148, 169-G4 (1992)

AGRINIER, B. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

AGUILAR, LUIS. Would a Galactic Bar Destroy the Globular Cluster System? *Kevin Long, Jeremiah P. Ostriker, & Luis Aguilar.* 388, 362, 54-G8 (1992)

AIT-OUAMER, FARID. Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

AJELLO, J. M. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.

ALBRECHT, R. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

ALDCROFT, THOMAS L. Spectroscopy of the Companion and Bow-Shock Nebula of PSR 1957+20. *Thomas L. Aldcroft, Roger W. Romani, & James M. Cordes.* 400, 638, 218-C13 (1992)

ALESSANDRO, B. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

ALFARO, EMILIO J. Influence of the Large-Scale Star Formation Pattern on the Galactic Distribution of Wolf-Rayet Stars. *Emilio J. Alfaro, Antonio J. Delgado, & Jesús Cabrera-Caño.* 386, L47, 36-C5 (1992)

Corrugations and Star Formation Activity: The Carina-Sagittarius Arm. *Emilio J. Alfaro, Jesús Cabrera-Caño, & Antonio J. Delgado.* 399, 576, 205-A9 (1992)

ALLAMANDOLA, L. J. The Ultraviolet and Visible Spectrum of the Polycyclic Aromatic Hydrocarbon $C_{10}H_8^+$: Possible Contributions to the Diffuse Interstellar Bands and to the Ultraviolet–Visible Extinction. *F. Salama & L. J. Allamandola.* 395, 301, 143-G9 (1992)

Infrared Spectroscopy of Dense Clouds in the C–H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

ALLEN, M. M. Velocity Structure in Optical CH^+ Lines toward HD 190603 and Implications for the Formation of CH^+. *M. M. Allen & Theodore P. Snow.* 391, 152, 87-G13 (1992)

Interstellar Absorption along the Line of Sight to Theta Carinae Using *Copernicus* Observations. *M. M. Allen, E. B. Jenkins, & T. P. Snow.* 83, 261, 61-D1 (1992)

ALLEN, R. J. A Surface Brightness Correlation between Carbon Monoxide and Nonthermal Radio Continuum Emission in the Galaxy. *R. J. Allen.* 399, 573, 205-A5 (1992)

ALLEN, RICHARD G. Intensive Optical Monitoring of the BL Lacertae Object PKS 2155–304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

ALLEN, RONALD J. A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)

ALLER, H. D. The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

ALLER, HUGH D. The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

ALLER, M. F. The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

ALLER, MARGO F. The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

ALLOIN, D. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

ALONSO, JOSÉ L. Possible Detection of a High-Velocity Neutral Wind in T Tauri. *Abraham Ruiz, José L. Alonso, & I. F. Mirabel.* 394, L57, 139-D7 (1992)

ALSOP, D. C. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales. *D. C. Alsop, E. S. Cheng, A. C. Clapp, D. A. Cottingham, M. L. Fischer, J. O. Gundersen, E. Kreysa, A. E. Lange, P. M. Lubin, P. R. Meinhold, P. L. Richards, & G. F. Smoot.* 395, 317, 146-B5 (1992)

ALTROCK, R. C. Coronal Density and Temperature Structure from Coordinated Observations Associated with the Total Solar Eclipse of 1988 March 18. *M. Guhathakurta, G. J. Rottman, R. R. Fisher, F. Q. Orrall, & R. C. Altrock.* 388, 633, 58-B1 (1992)

ALTSCHULER, DANIEL R. IRAS 14070+0525: An OH Gigamaser at z = 0.265. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

AMANO, T. See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

AMARI, SACHIKO. Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

AMARI, T. Prominence Sheets Supported by Constant-Current Force-free Fields. II. Imposition of Normal Photospheric Field Component and Prominence Surface Current. *C. Ridgway, T. Amari, & E. R. Priest.* 385, 718, 22-A10 (1992)

AN, C.-H. A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

ANDERSON, C. M. See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

ANDERSON, CHRISTOPHER M. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

ANDERSON, LAWRENCE S. Non–LTE, Line-blanketed Model Atmospheres for Late O- and Early B-Type Stars. *James A. Grigsby, Nancy D. Morrison, & Lawrence S. Anderson.* 78, 205, 4-D9 (1992)

ANDERSON, M. A. The Millimeter-Wave Spectrum of the CaOH Radical ($X^2\Sigma^+$). *L. M. Ziurys, W. L. Barclay, Jr., & M. A. Anderson.* 384, L63, 11-E1 (1992)

ANDERSON, SCOTT F. Carbon Star Luminosity Indicators. *Paul J. Green, Bruce Margon, Scott F. Anderson, & D. Jack MacConnell.* 400, 659, 218-E12 (1992)

ANDERSON, STEPHEN W. The Spectrum of Random Magnetic Fields in the Mean Field Dynamo Theory of the Galactic Magnetic Field. *Russell M. Kulsrud & Stephen W. Anderson.* 396, 606, 165-A1 (1992)

ANDERSON, TODD. An Extension of the High-Resolution Millimeter- and Submillimeter-Wave Spectrum of Methanol to High Angular Momentum Quantum Numbers. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 82, 405, 55-A9 (1992)

ANDRÉ, PHILIPPE. VLBI Survey of ρ Ophiuchi: A Population of Magnetized, Diskless Young Stellar Objects. *Philippe André, Bryan D. Deeney, Robert B. Phillips, & Jean-François Lestrade.* 401, 667, 230-G1 (1992)

ANDREANI, PAOLA. The Evolution of Quasar Clustering. *Paola Andreani & Stefano Cristiani.* 398, L13, 187-C1 (1992)

ANGEL, J. R. P. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

ANGLADA, G. Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

ANGLADA, GUILLEM. The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

ANICICH, V. G. Formaldehyde Reactions in Dark Clouds. *A. D. Sen, V. G. Anicich, & S. R. Federman.* 391, 141, 87-F10 (1992)

ANILE, A. M. Covariant Flux-limited Diffusion Theories. *A. M. Anile & V. Romano.* 386, 325, 28-C5 (1992)

ANNIS, JAMES. The Unusual K-Band Characteristics of the Gravitational Lens System MG 1131+0456. *James Annis.* 391, L17, 92-A7 (1992)

ANTOKHIN, I. I. Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

ANTONUCCI, R. R. J. A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)

ANTONUCCI, ROBERT. Submillimeter Observations of Radio-quiet Quasars and a Luminous Seyfert 1 Galaxy Including the First Detections. *Richard Barvainis, Robert Antonucci, & Paul Coleman.* 399, L19, 200-B1 (1992)

ANTONUCCIO-DELOGU, V. Gravitational Field Fluctuations in Weakly Clustered Systems. *V. Antonuccio-Delogu & F. Atrio-Barandela.* 392, 403, 107-C12 (1992)

APPARAO, K. M. V. X-Ray Observations of Planetary Nebulae with Binary Nuclei. *K. M. V. Apparao, G. D. Berthiaume, & J. A. Nousek.* 397, 534, 177-E5 (1992)

The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V. Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

APPARAO, KRISHNA M. V. *EXOSAT* Observations of the Be/X-Ray Binary 4U 2206+54. *Priyamvada Saraswat & Krishna M. V. Apparao.* 401, 678, 231-A1 (1992)

APPLEGATE, JAMES H. A Mechanism for Orbital Period Modulation in Close Binaries. *James H. Applegate.* 385, 621, 20-G4 (1992)

The Cooling of Neutron Stars by the Direct Urca Process. *Dany Page & James H. Applegate.* 394, L17, 133-C7 (1992)

APPLETON, P. N. A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

Large Infrared and Optical Color Gradients in the Cartwheel Ring Galaxy: Evidence for the First Epoch of Star Formation in the Wake of an Expanding Ring. *P. M. Marcum, P. N. Appleton, & J. L. Higdon.* 399, 57, 195-G3 (1992)

APPONI, A. J. Detection of the Quadrupole Hyperfine Structure in $HCNH^+$. *L. M. Ziurys, A. J. Apponi, & J. T. Yoder.* 397, L123, 181-F6 (1992)

ARAV, NAHUM. Radiation-viscous Boundary Layers. *Nahum Arav & Mitchell C. Begelman.* 401, 125, 222-E7 (1992)

ARCORAGI, JEAN-PIERRE. Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)

ARENDT, RICHARD G. Infrared Emission from X-Ray and Optically Emitting Regions in the Cygnus Loop Supernova Remnant. *Richard G. Arendt, Eli Dwek, & David Leisawitz.* 400, 562, 217-D1 (1992)

ARENDT, S. Large-Scale Flows and Solar Luminosity Variations. *S. Arendt.* 389, 421, 65-B6 (1992)

ARENS, JOHN. Mid-Infrared Imaging of Markarian 231 and Arp 220. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 387, L17, 43-B13 (1992)

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

ARENS, JOHN F. Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89−0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

ARMSTRONG, J. THOMAS. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

ARNAUD, K. A. An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)

See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

ARNAUD, M. A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

Iron Ionization and Recombination Rates and Ionization Equilibrium. *M. Arnaud & J. Raymond.* 398, 394, 186-F5 (1992)

ARNEODO, F. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

ARNETT, DAVID. Thermonuclear Runaways in Nova Outbursts. *Anurag Shankar, David Arnett, & Bruce A. Fryxell.* 394, L13, 133-C1 (1992)

ARONS, JONATHAN. Photon Bubbles: Overstability in a Magnetized Atmosphere. *Jonathan Arons.* 388, 561, 57-C1 (1992)

Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

ARRIBAS, S. Bidimensional Spectroscopy of the Central Kiloparsec of NGC 4151. *E. Mediavilla, S. Arribas, & J. L. Rasilla.* 396, 517, 164-A1 (1992)

ARTYMOWICZ, PAWEŁ. Dynamics of Ultraharmonic Resonances in Spiral Galaxies. *Paweł Artymowicz & Stephen H. Lubow.* 389, 129, 61-F1 (1992)

ASANO, YOICHI. Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

ASCHWANDEN, MARKUS J. Decimetric Solar Type U Bursts: VLA and PHOENIX Observations. *Markus J. Aschwanden, T. S. Bastian, A. O. Benz, & J. W. Brosius.* 391, 380, 90-E13 (1992)

The Coevolution of Decimetric Millisecond Spikes and Hard X-Ray Emission during Solar Flares. *Markus J. Aschwanden & Manuel Güdel.* 401, 736, 231-F1 (1992)

ASHMAN, KEITH M. The Formation of Globular Clusters in Merging and Interacting Galaxies. *Keith M. Ashman & Stephen E. Zepf.* 384, 50, 1-F1 (1992)

ASHOKA, B. N. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

ASPIN, C. The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)

ATHANASSOULA, E. The Opacity of Spiral Disks. *A. Bosma, Y. Byun, K. C. Freeman, & E. Athanassoula.* 400, L21, 214-C10 (1992)

ATRIO-BARANDELA, F. The Great Wall in the CfA Survey: Its Origin and Imprint on the Microwave Background Radiation. *F. Atrio-Barandela & A. Kashlinsky.* 390, 322, 79-C1 (1992)

Gravitational Field Fluctuations in Weakly Clustered Systems. *V. Antonuccio-Delogu & F. Atrio-Barandela.* 392, 403, 107-C12 (1992)

ATTRIDGE, JOANNE M. Rotation Periods of T Tauri Stars in the Orion Nebula Cluster: A Bimodal Frequency Distribution. *Joanne M. Attridge & William Herbst.* 398, L61, 188-B1 (1992)

ATWOOD, BRUCE. Imaging Spectrophotometry of the Orion Nebula Core. I. Emission-Line Mapping and Physical Conditions. *Richard W. Pogge, J. Michael Owen, & Bruce Atwood.* 399, 147, 197-A9 (1992)

AUBÉ, MARTIN. The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

AUGUSTEIJN, T. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

AVERY, L. W. Warm Molecular Gas in the Nucleus of IC 342: The CO ($J = 3 \rightarrow 2$) Distribution. *Judith A. Irwin & L. W. Avery.* 388, 328, 54-D7 (1992)

A Sensitive Search for Rotational Lines of Vibrationally Excited HC_5N in IRC +10°216. *M. B. Bell, P. A. Feldman, & L. W. Avery.* 396, 643, 165-D1 (1992)

The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)

A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths. *L. W. Avery, T. Amano, M. B. Bell, P. A. Feldman, J. W. C. Johns, J. M. MacLeod, H. E. Matthews, D. C. Morton, J. K. G. Watson, B. E. Turner, S. S. Hayashi, G. D. Watt, & A. S. Webster.* 83, 363, 62-G3 (1992)

AWAKI, HISAMITU. Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

AXON, D. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

AXON, D. J. Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

AYMON, J. See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

AYRES, THOMAS R. Extreme Ultraviolet Spectroscopy of Capella. *James C. Green, Erik Wilkinson, Thomas R. Ayres, & Webster Cash.* 397, L99, 181-C8 (1992)

BAAN, WILLEM A. Formaldehyde Absorption in the Nucleus of NGC 3628. *Willem A. Baan & W. M. Goss.* 385, 188, 14-C10 (1992)

IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

OH and H I Absorption at the Nucleus of NGC 660. *Willem A. Baan, James Rhoads, & Aubrey D. Haschick.* 401, 508, 229-A6 (1992)

BABLER, B. L. See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

BABLER, BRIAN. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

BABU, GUTTI JOGESH. Linear Regression in Astronomy. II. *Eric D. Feigelson & Gutti Jogesh Babu.* 397, 55, 168-F9 (1992)

BABUL, ARIF. Pressure-confined Lyα Clouds: Simulation Results versus Observations. *Gerard M. Williger & Arif Babul.* 399, 385, 202-G1 (1992)

A Quantitative Measure of Structure in the Three-dimensional Galaxy Distribution: Sheets and Filaments. *Arif Babul & Glenn D. Starkman.* 401, 28, 221-D3 (1992)

BACHILLER, R. CO in the Cometary Globules of the Helix Nebula. *P. J. Huggins, R. Bachiller, P. Cox, & T. Forveille.* 401, L43, 227-F7 (1992)

Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *J. Martín-Pintado & R. Bachiller.* 401, L47, 227-G1 (1992) (Orig. paper in 391, L93, 99-G12 (1992))

BACHILLER, RAFAEL. Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *Jesús Martín-Pintado & Rafael Bachiller.* 391, L93, 99-G12 (1992)

BACKER, DONALD C. Fine-Scale Structure in the -185 Kilometers per Second Absorption by HCO^+ in the Galactic Center. *Jonathan M. Marr, Alexander L. Rudolph, Thomas A. Pauls, Melvyn C. H. Wright, & Donald C. Backer.* 400, L29, 214-D5 (1992)

BACKMAN, D. E. Infrared Observations and Thermal Models of the β Pictoris Disk. *D. E. Backman, F. C. Gillett, & F. C. Witteborn.* 385, 670, 21-D8 (1992)

BACKUS, C. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

BAGNUOLO, WILLIAM G., JR. Tomographic Separation of Composite Spectra. I. The Components of Plaskett's Star. *William G. Bagnuolo, Jr., Douglas R. Gies, & Michael S. Wiggs.* 385, 708, 21-G12 (1992)

BAHCALL, J. N. The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

Helium Diffusion in the Sun. *J. N. Bahcall & M. H. Pinsonneault.* 395, L119, 154-D7 (1992)

BAHCALL, JOHN N. See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

Local Dark Matter from a Carefully Selected Sample. *John N. Bahcall, Chris Flynn, & Andrew Gould.* 389, 234, 62-G9 (1992)

Hubble Space Telescope Imaging of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, Dan Maoz, Donald P. Schneider, Brian Yanny, & Rodger Doxsey.* 392, L1, 106-A7 (1992)

The Ultraviolet Absorption Spectrum of the Quasar H1821+643 ($z = 0.297$). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

Faint Object Spectrograph Observations of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, George F. Hartig, Buell T. Jannuzi, Dan Maoz, & Donald P. Schneider.* 400, L51, 220-C1 (1992)

BAHCALL, N. A. The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

BAHCALL, NETA A. The Clustering of Radio Galaxies. *Neta A. Bahcall & Arati Chokshi.* 385, L33, 23-B1 (1992)

See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

The Cluster Correlation Function: Consistent Results from an Automated Survey. *Neta A. Bahcall & Michael J. West.* 392, 419, 107-E1 (1992)

Galaxy Clusters and Cold Dark Matter: A Low-Density Unbiased Universe? *Neta A. Bahcall & Renyue Cen.* 398, L81, 194-B6 (1992)

BAI, T. The 77 Day Periodicity in the Flare Rate of Cycle 22. *T. Bai.* 388, L69, 59-D3 (1992)

Search for Evidence of a Clock Related to the Solar 154 Day Complex of Periodicities. *P. A. Sturrock & T. Bai.* 397, 337, 172-A13 (1992)

Methods of Periodicity Analysis: Relationship between the Rayleigh Analysis and a Maximum Likelihood Method. *T. Bai.* 397, 584, 178-C6 (1992)

BAILES, M. PSR 1259−63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

Galactic Gamma-Ray Emission from Radio Pulsars. *M. Bailes & D. A. Kniffen.* 391, 659, 96-C1 (1992)

BAILEY, J. A. Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

BAILEY, JEREMY. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

BAILYN, CHARLES D. Periodic Variability in the Optical Counterpart of X-Ray Nova Muscae 1991. *Charles D. Bailyn.* 391, 298, 89-F1 (1992)

Are There Two Kinds of Blue Stragglers in Globular Clusters? *Charles D. Bailyn.* 392, 519, 108-F9 (1992)

Evidence for a Black Hole in the X-Ray Binary Nova Muscae 1991. *Ronald A. Remillard, Jeffrey E. McClintock, & Charles D. Bailyn.* 399, L145, 208-C7 (1992)

BAKER, DANIEL N. Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)

BAKER, GERALD R. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

BALBUS, STEVEN A. Is the Oort *A*-Value a Universal Growth Rate Limit for Accretion Disk Shear Instabilities? *Steven A. Balbus & John F. Hawley.* 392, 662, 110-D12 (1992)

Characteristic-based Models for the Evolution of Cooling Flows. *Stephen D. Murray & Steven A. Balbus.* 395, 99, 141-C11 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. III. Long-Term Evolution in a Shearing Sheet. *John F. Hawley & Steven A. Balbus.* 400, 595, 217-F12 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. IV. Nonaxisymmetric Perturbations. *Steven A. Balbus & John F. Hawley.* 400, 610, 218-A1 (1992)

BALDWIN, JACK A. The Ionization Cone, Obscured Nucleus, and Gaseous Outflow in NGC 3281: A Prototypical Seyfert 2 Galaxy? *Thaisa Storchi-Bergmann, Andrew S. Wilson, & Jack A. Baldwin.* 396, 45, 155-F1 (1992)

BALICK, BRUCE. Stellar Wind Paleontology. II. Faint Halos and Historical Mass Ejection in Planetary Nebulae. *Bruce Balick, Guillermo Gonzalez, Adam Frank, & George Jacoby.* 392, 582, 109-D11 (1992)

BALIUNAS, SALLIE L. Evidence of Differential Surface Rotation in the Solar-Type Star HD 114710. *Robert A. Donahue & Sallie L. Baliunas.* 393, L63, 127-D1 (1992)

The Activity Cycle of σ Draconis. *David F. Gray, Sallie L. Baliunas, G. W. Lockwood, & Brian A. Skiff.* 400, 681, 219-A1 (1992)

BALKE, CHRISTIAAN. On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

BALL, LEWIS. Diffusive Acceleration of Electrons in SN 1987A. *Lewis Ball & J. G. Kirk.* 396, L39, 160-G1 (1992)

On "High Flyers" in Fermi Acceleration. *Lewis Ball, D. B. Melrose, & C. A. Norman.* 398, L65, 188-B7 (1992)

BALL, ROGER. Mid-Infrared Imaging of Markarian 231 and Arp 220. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 387, L17, 43-B13 (1992)

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89−0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

A Dynamical Analysis of the Barred Spiral Galaxy NGC 3359. *Roger Ball.* 395, 418, 147-E5 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

BALLESTER, J. L. Magnetohydrodynamic Waves in a Solar Prominence. *R. Oliver, J. L. Ballester, A. W. Hood, & E. R. Priest.* 400, 369, 213-E1 (1992)

BALLET, J. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

BALLY, J. Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1−0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

BALLY, JOHN. The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

BALONA, L. A. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

BALONEK, T. J. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

BALSARA, DINSHAW S. Three-dimensional Hydrodynamic Simulations of Narrow-Angle–Tail Radio Sources. I. The Begelman, Rees, and Blandford Model. *Dinshaw S. Balsara & Michael L. Norman.* 393, 631, 123-F3 (1992)

A Model for Ring Galaxies: Arp 147–like Systems. *Richard A. Gerber, Susan A. Lamb, & Dinshaw S. Balsara.* 399, L51, 200-E10 (1992)

BAŁUCIŃSKA-CHURCH, MONIKA. Photoelectric Absorption Cross Sections with Variable Abundances. *Monika Bałucińska-Church & Dan McCammon.* 400, 699, 219-B11 (1992)

BAND, DAVID. On the Use of V/V_{max} for Gamma-Ray Bursts. *David Band.* 400, L63, 220-D10 (1992)

BAND, DAVID L. Flash Photoionization of Gamma-Ray Burst Environments. *David L. Band & Dieter H. Hartmann.* 386, 299, 28-A5 (1992)

See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

BANIA, T. M. Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

BANIT, MENASHE. Orbital Angular Momentum Loss in PSR 1957+20. *Menashe Banit & Jacob Shaham.* 388, L19, 52-B11 (1992)

BAO, G. Accretion Disk Self-Eclipse: X-Ray Light Curve and Emission Line. *G. Bao & Z. Stuchlík.* 400, 163, 211-A1 (1992)

BARATTA, G. A. Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

BARBÁ, RODOLFO. The Orbital Parameters and the *IUE* Spectrum of the Single-lined Spectroscopic Binary HD 698. *Jorge Sahade, Rodolfo Barbá, & Yoji Kondo.* 81, 303, 39-B1 (1992)

BARBIERI, C. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

BARCLAY, W. L., JR. The Millimeter-Wave Spectrum of the CaOH Radical ($X^2\Sigma^+$). *L. M. Ziurys, W. L. Barclay, Jr., & M. A. Anderson.* 384, L63, 11-E1 (1992)

BARCONS, X. Confusion Noise and Source Clustering. *X. Barcons.* 396, 460, 163-B11 (1992)

BARKER, EDWIN S. Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

BARKER, JOHN R. Infrared Emission Spectra of Benzene and Naphthalene: Implications for the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *Jerrell D. Brenner & John R. Barker.* 388, L39, 52-D6 (1992)

Polycyclic Aromatic Hydrocarbons and Molecular Equilibria in Carbon-rich Stars. *Isabelle Cherchneff & John R. Barker.* 394, 703, 138-C4 (1992)

Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

BARLOW, M. J. The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)

BARLOW, THOMAS A. Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)

BARNBAUM, C. The Radial Velocity of the White Dwarf Giclas 29-38. *C. Barnbaum & B. Zuckerman.* 396, L31, 160-F1 (1992)

BARNBAUM, CECILIA. Radial Velocities of Carbon Stars: CO versus Optical Measurements. *Cecilia Barnbaum.* 385, 694, 21-F10 (1992)

BARNES, JOSHUA E. Transformations of Galaxies. I. Mergers of Equal-Mass Stellar Disks. *Joshua E. Barnes.* 393, 484, 121-G9 (1992)

BARNES, PETER J. Orion B (NGC 2024). III. BIMA SO $J_K = 2_2 \rightarrow 1_1$ Observations: Evidence for Peculiar Sulfur Chemistry. *Peter J. Barnes & Richard M. Crutcher.* 389, 325, 64-A5 (1992)

BARON, E. The Collapse of White Dwarfs to Neutron Stars. *S. E. Woosley & E. Baron.* 391, 228, 88-G1 (1992)
Flux-limited Diffusion in Hydrodynamics. *J. Cooperstein & E. Baron.* 398, 531, 190-F11 (1992)
BAROUCH, E. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.
BARR, P. X-Ray Luminosity and Spectral Variability of Hard X-Ray–selected Active Galactic Nuclei. *P. Grandi, G. Tagliaferri, P. Giommi, P. Barr, & G. G. C. Palumbo.* 82, 93, 50-C9 (1992)
BARRET, D. See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.
SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62). *D. Barret, J. P. Roques, P. Mandrou, L. Bouchet, F. Lebrun, A. Goldwurm, P. Laurent, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Kavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 392, L19, 106-C7 (1992)
Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260. *D. Barret, L. Bouchet, P. Mandrou, J. P. Roques, B. Cordier, Ph. Laurent, F. Lebrun, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Khavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 394, 615, 137-B1 (1992)
BARNETT, PAUL. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.
BARSONY, MARY. On the Origin of Submillimeter Emission from Young Stars in Taurus-Auriga. *Mary Barsony & Scott J. Kenyon.* 384, L53, 11-D1 (1992)
BARSTOW, M. A. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.
The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)
BARTH, C. A. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.
BARTOE, DONNA D. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.
BARVAINIS, RICHARD. A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)
Submillimeter Observations of Radio-quiet Quasars and a Luminous Seyfert 1 Galaxy Including the First Detections. *Richard Barvainis, Robert Antonucci, & Paul Coleman.* 399, L19, 200-B1 (1992)
Dust Reverberation: A Model for the Infrared Variations of Fairall 9. *Richard Barvainis.* 400, 502, 216-E5 (1992)
BASRI, GIBOR. Limits on the Magnetic Flux of Pre–Main-Sequence Stars. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 390, 622, 83-A9 (1992)
BASSANI, L. See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?
SIGMA Observation of Two Quasars: 3C 273 and 0241+62. *L. Bassani, E. Jourdain, J. P. Roques, L. Bouchet, J. Ballet, F. Lebrun, Ph. Laurent, B. Cordier, R. Sunyaev, E. Churazov, M. Gilfanov, A. Finogenov, A. Dyachkov, N. Khavenson, B. Novikov, & I. Chulkov.* 396, 504, 163-F11 (1992)
BASTIAN, T. S. Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)
Detection of the H92α Radio Recombination Line from the Symbiotic Star H1−36 Arae. *T. S. Bastian.* 387, L77, 48-D1 (1992)
Decimetric Solar Type U Bursts: VLA and PHOENIX Observations. *Markus J. Aschwanden, T. S. Bastian, A. O. Benz, & J. W. Brosius.* 391, 380, 90-E13 (1992)
Radio Emission from Chemically Peculiar Stars. *Jeffrey L. Linsky, Stephen A. Drake, & T. S. Bastian.* 393, 341, 118-D1 (1992)
BASTIEN, PIERRE. Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)
A Binary Origin for FU Orionis Stars. *Ian Bonnell & Pierre Bastien.* 401, L31, 227-E1 (1992)
Fragmentation of Elongated Cylindrical Clouds. V. Dependence of Mass Ratios on Initial Conditions. *Ian Bonnell & Pierre Bastien.* 401, 654, 230-F1 (1992)
BASU, SARBANI. Multiplicity-corrected Mass Function of Main-Sequence Stars in the Solar Neighborhood. *Sarbani Basu & N. C. Rana.* 393, 373, 118-F10 (1992)
BATRLA, WOLFGANG. Are the NGC 7538 Formaldehyde Masers Really Unusual? *Preethi Pratap, Lewis E. Snyder, & Wolfgang Batrla.* 387, 241, 40-A1 (1992)
BAUER, FRANK H. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.
BAUM, S. A. Spectroscopy of Emission-Line Nebulae in Powerful Radio Galaxies: Interpretation. *S. A. Baum, T. M. Heckman, & W. van Breugel.* 389, 208, 62-E7 (1992)
BAXTER, D. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.
See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.
BAYM, GORDON. Vortex Drag and the Spin-up Time Scale for Pulsar Glitches. *Richard I. Epstein & Gordon Baym.* 387, 276, 40-D1 (1992)
Postglitch Behavior of the Crab Pulsar: Evidence for External Torque Variations. *Bennett Link, Richard I. Epstein, & Gordon Baym.* 390, L21, 78-D5 (1992)
BAZAN, G. Evolution of Heavy-Element Abundances as a Constraint on Sites for Neutron-Capture Nucleosynthesis. *G. J. Mathews, G. Bazan, & J. J. Cowan.* 391, 719, 97-A1 (1992)
BAZZANO, A. Variability of the Galactic Center in the Hard X-Ray Range. *A. Bazzano, C. La Padula, P. Ubertini, & R. K. Sood.* 385, L17, 17-C1 (1992)
Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)
See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.
Hard X-Ray Observation of Scorpius X-1: Erratum. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 396, 378, 159-G3 (1992) (Orig. paper in 386, 710, 34-B4 (1992))
BEACOM, JOHN FRANCIS. Gravitational Clustering in the Expanding Universe: Controlled High-Resolution Studies in Two Dimensions: Erratum. *John Francis Beacom, Kurt G. Dominik, Adrian L. Melott, Sam P. Perkins, & Sergei F. Shandarin.* 384, 665, 10-D1 (1992) (Orig. paper in 372, 351, 80-B7 (1991))
BEAKY, MATTHEW M. Topology of Large-Scale Structure in Seeded Hot Dark Matter Models. *Matthew M. Beaky, Robert J. Scherrer, & Jens V. Villumsen.* 387, 443, 44-C1 (1992)
BEAUFUMÉ, P. Coronal Loops: Current-based Heating Processes. *P. Beaufumé, B. Coppi, & L. Golub.* 393, 396, 119-A11 (1992)
BECHTOLD, J. The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)
BECHTOLD, JILL. Mg II Absorption by Previously Known Galaxies at $z \approx 0.5$. *Jill Bechtold & Erica Ellingson.* 396, 20, 155-C13 (1992)
BECKER, PETER A. First-Order Fermi Acceleration in Spherically Symmetric Flows: Solutions Including Quadratic Losses. *Peter A. Becker.* 397, 88, 169-B6 (1992)
BECKER, R. H. Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)
BECKER, ROBERT H. A New Catalog of 30,239 1.4 GHz Sources. *Richard L. White & Robert H. Becker.* 79, 331, 18-G9 (1992)
BECKLIN, E. E. Companions to White Dwarfs: Very Low Mass Stars and the Brown Dwarf Candidate GD 165B. *B. Zuckerman & E. E. Becklin.* 386, 260, 27-D7 (1992)
Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

A Near-Infrared Search for Brown Dwarfs in the Pleiades. *D. A. Simons & E. E. Becklin.* 390, 431, 80-F10 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)

BECKMAN, JOHN E. Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

Observation of Fine Structure in the Cold Phase of the Local Interstellar Medium Using K I Absorption. *Joaquín Trapero, John E. Beckman, Ricardo Génova, & Conal D. McKeith.* 394, 552, 136-C1 (1992)

BEDNAREK, W. On the 440 keV Line in the Crab Nebula Pulsar. *W. Bednarek, O. Cremonesi, & A. Treves.* 390, 489, 81-D5 (1992)

BEER, HERMANN. A Measurement of the $^{14}C(n,\gamma)^{15}C$ Cross Section at a Stellar Temperature of kT = 23.3 keV. *Hermann Beer, M. Wiescher, F. Käppeler, J. Görres, & P. E. Koehler.* 387, 258, 40-B8 (1992)

Measurement of the $^{76}Se(n, \gamma)$ Capture Cross Section and Phenomenological s-Process Studies: The Weak Component. *Hermann Beer, G. Walter, & F. Käppeler.* 389, 784, 71-B1 (1992)

On the Calculation of Maxwellian-averaged Capture Cross Sections. *Hermann Beer, F. Voss, & R. R. Winters.* 80, 403, 27-G13 (1992)

BEERS, TIMOTHY C. A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)

BEGELMAN, MITCHELL C. The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

Electromagnetically Driven Relativistic Jets: A Class of Self-similar Solutions. *Zhi-Yun Li, Tzihong Chiueh, & Mitchell C. Begelman.* 394, 459, 135-B1 (1992)

An Axisymmetric Magnetohydrodynamic Model for the Crab Pulsar Wind Bubble. *Mitchell C. Begelman & Zhi-yun Li.* 397, 187, 170-C11 (1992)

Formation of the Dark Bays in the Crab Optical Synchrotron Nebula: Is the Crab Pulsar Wind Bubble Interacting with Its Progenitor's Wind? *Zhi-Yun Li & Mitchell C. Begelman.* 400, 186, 211-C1 (1992)

Radiation-viscous Boundary Layers. *Nahum Arav & Mitchell C. Begelman.* 401, 125, 222-E7 (1992)

BEICHMAN, C. A. Star Formation in Taurus. I. The *IRAS* Faint Source Survey. *C. A. Beichman, F. Boulanger, & M. Moshir.* 386, 248, 27-C5 (1992)

BEIDECK, D. J. Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)

BEKENSTEIN, JACOB D. Dynamical Friction from Fluctuations in Stellar Dynamical Systems. *Jacob D. Bekenstein & Eyal Maoz.* 390, 79, 75-A10 (1992)

BELINSKY, V. Radiation from a Relativistic Magnetized Star. *V. Belinsky & R. Ruffini.* 401, L27, 227-D7 (1992)

BELKORA, L. Measurement of the Solar Limb Brightness Profile at 3 Millimeters during the Total Eclipse of 1991 July 11. *L. Belkora, G. J. Hurford, Dale E. Gary, & D. P. Woody.* 400, 692, 219-B1 (1992)

BELL, J. F. Optical Spectroscopy of Magellanic Cloud Planetary Nebulae. III. *E. Vassiliadis, Michael A. Dopita, D. H. Morgan, & J. F. Bell.* 83, 87, 58-B1 (1992)

BELL, M. B. A Sensitive Search for Rotational Lines of Vibrationally Excited HC_5N in IRC +10°216. *M. B. Bell, P. A. Feldman, & L. W. Avery.* 396, 643, 165-D1 (1992)

The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)

See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

BELL, R. A. CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

BELLEY, JULIEN. The Abundance Gradients across the Spiral Galaxies NGC 628 and NGC 6946. *Julien Belley & Jean-René Roy.* 78, 61, 2-C7 (1992)

BELLI, B. M. Shot Noise in Gamma-Ray Bursts. *B. M. Belli.* 393, 266, 117-D9 (1992)

BELOV, S. P. Improved Laboratory Rest Frequency Measurements and Pressure Shift and Broadening Parameters for the $J = 2 \leftarrow 1$ and $J = 3 \leftarrow 2$ Rotational Transitions of CO. *S. P. Belov, M. Yu. Tretyakov, & R. D. Suenram.* 393, 848, 126-D9 (1992)

BENDER, RALF. Dynamically Hot Galaxies. I. Structural Properties. *Ralf Bender, David Burstein, & S. M. Faber.* 399, 462, 203-F1 (1992)

BENETTI, STEFANO. Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

BENFORD, GREGORY. Collective Emission from Rapidly Variable Quasars. *Gregory Benford.* 391, L59, 99-D1 (1992)

BENKA, STEPHEN G. A Thermal/Nonthermal Model for Solar Microwave Bursts. *Stephen G. Benka & Gordon D. Holman.* 391, 854, 98-E7 (1992)

A Hybrid Thermal/Nonthermal Model for the Energetic Emissions from Solar Flares. *Gordon D. Holman & Stephen G. Benka.* 400, L79, 220-F8 (1992)

BENNETT, C. L. SO in Starburst Galaxies. *S. J. Petuchowski & C. L. Bennett.* 391, 137, 87-F5 (1992)

COBE Differential Microwave Radiometers: Calibration Techniques. *C. L. Bennett, G. F. Smoot, M. Janssen, S. Gulkis, A. Kogut, G. Hinshaw, C. Backus, M. G. Hauser, J. C. Mather, L. Rokke, L. Tenorio, R. Weiss, D. T. Wilkinson, E. L. Wright, G. De Amici, N. W. Boggess, E. S. Cheng, P. D. Jackson, P. Keegstra, T. Kelsall, R. Kummerer, C. Lineweaver, S. H. Moseley, T. L. Murdock, J. Santana, R. A. Shafer, & R. F. Silverberg.* 391, 466, 93-F7 (1992)

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers. *C. L. Bennett, G. F. Smoot, G. Hinshaw, E. L. Wright, A. Kogut, G. De Amici, S. S. Meyer, R. Weiss, D. T. Wilkinson, S. Gulkis, M. Janssen, N. W. Boggess, E. S. Cheng, M. G. Hauser, T. Kelsall, J. C. Mather, S. H. Moseley, Jr., T. L. Murdock, & R. F. Silverberg.* 396, L7, 160-C1 (1992)

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

BENNETT, DAVID P. The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

BENSADOUN, M. A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

BENSON, J. The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

BENSON, J. A. Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)

10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)

BENZ, A. O. Decimetric Solar Type U Bursts: VLA and PHOENIX Observations. *Markus J. Aschwanden, T. S. Bastian, A. O. Benz, & J. W. Brosius.* 39[illegible], 380, 90-E13 (1992)

BENZ, W. Three-dimensional Hydrodynamical Simulations of Colliding Stars. III. Collisions and Tidal Captures of Unequal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 389, 546, 68-C8 (1992)

Stellar Encounters Involving Neutron Stars in Globular Cluster Cores. *M. B. Davies, W. Benz, & J. G. Hills.* 401, 246, 224-B1 (1992)

BENZ, WILLY. Postexplosion Hydrodynamics of SN 1987A. *Marc Herant & Willy Benz.* 387, 294, 40-E9 (1992)

Postcollapse Hydrodynamics of SN 1987A: Two-dimensional Simulations of the Early Evolution. *Marc Herant, Willy Benz, & Stirling Colgate.* 395, 642, 151-B13 (1992)

BERG, CHRISTOPHER. Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

BERGAMASCO, L. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

BERGBUSCH, PETER A. Oxygen-enhanced Models for Globular Cluster Stars. II. Isochrones and Luminosity Functions. *Peter A. Bergbusch & Don A. VandenBerg.* 81, 163, 37-C11 (1992)

BERGERON, P. On the Influence of the Convective Efficiency on the Determination of the Atmospheric Parameters of DA White Dwarfs. *P. Bergeron, F. Wesemael, & G. Fontaine.* 387, 288, 40-E1 (1992)

A Spectroscopic Determination of the Mass Distribution of DA White Dwarfs. *P. Bergeron, Rex A. Saffer, & James Liebert.* 394, 228, 130-G5 (1992)

Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

The Case of G226-29: Evidence for a Pulsating DA White Dwarf with a Thick Hydrogen Layer? *G. Fontaine, P. Brassard, P. Bergeron, & F. Wesemael.* 399, L91, 201-C13 (1992)

Discovery of Two Cool Magnetic White Dwarfs. *P. Bergeron, Maria-Teresa Ruiz, & S. K. Leggett.* 400, 315, 212-G5 (1992)

BERNARDEAU, FRANCIS. The Quasi-Gaussian Density-Velocity Relationship. *Francis Bernardeau.* 390, L61, 84-F1 (1992)

The Gravity-induced Quasi-Gaussian Correlation Hierarchy. *Francis Bernardeau.* 392, 1, 101-B1 (1992)

BERRILLI, F. Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

BERRIMAN, G. A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

BERRIMAN, GRAHAM. Effective Temperatures of M Dwarfs. *Graham Berriman, Neill Reid, & S. K. Leggett.* 392, L31, 106-D11 (1992)

BERRINGTON, K. A. Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)

Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

Improved Calculations for the C III $\lambda\lambda$1907,1909 and Si III $\lambda\lambda$1883,1892 Electron Density Sensitive Emission-Line Ratios, and a Comparison with *IUE* Observations. *F. P. Keenan, W. A. Feibelman, & K. A. Berrington.* 389, 443, 65-D5 (1992)

BERSANELLI, M. A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

BERTAUX, J. L. Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)

BERTELLI, G. On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)

Setting the Clock of Stellar Models. *G. Bertelli, A. Bressan, & C. Chiosi.* 392, 522, 108-F13 (1992)

BERTELLI, GIANPAOLO. The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)

BERTELLO, L. New Observations of 5 Minute Oscillations in the Opposite Flanks of Solar Fraunhofer Lines. I. The Effect of Varying the Spectral and Temporal Resolution. *L. Bertello, B. Caccin, P. Francia, & E. Pietropaolo.* 401, 768, 232-B1 (1992)

BERTHIAUME, G. D. X-Ray Observations of Planetary Nebulae with Binary Nuclei. *K. M. V. Apparao, G. D. Berthiaume, & J. A. Nousek.* 397, 534, 177-E5 (1992)

BERTIN, G. Elliptical Galaxies with Dark Matter. I. Self-consistent Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 384, 423, 7-D9 (1992)

Elliptical Galaxies with Dark Matter. II. Optimal Luminous–Dark Matter Decomposition for a Sample of Bright Objects. *R. P. Saglia, G. Bertin, & M. Stiavelli.* 384, 433, 7-E7 (1992)

BERTOLA, F. The External Origin of the Gas in S0 Galaxies. *F. Bertola, L. M. Buson, & W. W. Zeilinger.* 401, L79, 233-A12 (1992)

BERTOLDI, FRANK. Dense Clumps of Ionized Gas near π Scorpii, as Revealed by the Fine-Structure Excitation of N II. *Frank Bertoldi & Edward B. Jenkins.* 388, 495, 56-D9 (1992)

Pressure-confined Clumps in Magnetized Molecular Clouds. *Frank Bertoldi & Christopher F. McKee.* 395, 140, 142-A1 (1992)

BERTOUT, CLAUDE. Cool Mass-losing Boundary Layers of T Tauri Accretion Disks. *Claude Bertout & Oded Regev.* 399, L163, 208-E1 (1992)

BERTRAM, R. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

BERTSCH, D. L. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

BESSELL, M. S. Evolution of Beryllium Abundances in the Galactic Halo. *Sean G. Ryan, John E. Norris, M. S. Bessell, & Constantine P. Deliyannis.* 388, 184, 51-C6 (1992)

OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

BESTER, M. Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

BHATIA, A. K. The Optically Thick C III Spectrum. I. Term Populations and Multiplet Intensities at Lower Optical Depths. *A. K. Bhatia & S. O. Kastner.* 79, 139, 14-G3 (1992)

On the Calculation of Atomic Term Populations. *S. O. Kastner & A. K. Bhatia.* 398, 698, 192-F11 (1992)

Photon Escape Probabilities from Resolved Sources: Application to Solar C III Limb Emission. *S. O. Kastner & A. K. Bhatia.* 401, 416, 226-C1 (1992)

BHATIA, V. B. Photodissociation in Strong Magnetic Fields and Application to Pulsars. *V. B. Bhatia, Namrata Chopra, & N. Panchapakesan.* 388, 131, 50-F1 (1992)

BHATTACHARJEE, A. Forced Reconnection, Current Sheets, and Coronal Heating. *Xiaogang Wang & A. Bhattacharjee.* 401, 371, 225-F1 (1992)

BHATTACHARYYA, S. Transient Periodicities in X-Ray–active Red Dwarfs: First Results from Mount Cuba and Interpretation with an Oscillating Loop Model. *D. J. Mullan, R. B. Herr, & S. Bhattacharyya.* 391, 265, 89-C1 (1992)

BIANCHI, L. *Hubble Space Telescope* Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

BICKERT, K. See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

BICKNELL, GEOFFREY V. The Estimation of Absolute Magnitude and Distance from the Tully-Fisher Relation. *Geoffrey V. Bicknell.* 399, 1, 195-B1 (1992)

BIEGING, J. H. Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

BIETENHOLZ, M. F. Activity and Radio Spectral Index Variations near the Center of the Crab Nebula. *M. F. Bietenholz & P. P. Kronberg.* 393, 206, 116-F1 (1992)

BIGGS, JAMES D. An Analysis of Radio Pulsar Nulling Statistics. *James D. Biggs.* 394, 574, 136-D13 (1992)

BIGNAMI, G. F. High-Resolution Optical Imaging of the Large Magellanic Cloud Plerion 0540−69. *P. A. Caraveo, G. F. Bignami, S. Mereghetti, & M. Mombelli.* 395, L103, 154-B11 (1992)

BIGNAMI, GIOVANNI F. On the Optical Counterpart of 1E 1207.4−5209, the Central X-Ray Source of a Ring-shaped Supernova Remnant. *Giovanni F. Bignami, Patrizia A. Caraveo, & Sandro Mereghetti.* 389, L67, 73-D5 (1992)

BILDSTEN, LARS. The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

Tidal Interactions of Inspiraling Compact Binaries. *Lars Bildsten & Curt Cutler.* 400, 175, 211-B1 (1992)

BINETTE, LUC. From Fairall 9 to High-z Objects: Pattern of Change in Ionization Structure. *Wei Zheng, Li-Zhi Fang, & Luc Binette.* 392, 74, 102-A1 (1992)

BISHT, R. S. Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

BIVIANO, A. Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)

BJÖRNSSON, GUNNLAUGUR. Hot Pair-dominated Accretion Disks. *Gunnlaugur Björnsson & Roland Svensson.* 394, 500, 135-E9 (1992)

BJORKMAN, K. S. The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

BJORKMAN, KAREN S. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

BLACK, JOHN H. Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

The Diffuse Interstellar Cloud toward HD 179406 (20 Aquilae). *Margaret Murray Hanson, Theodore P. Snow, & John H. Black.* 392, 571, 109-C12 (1992)

BLADES, J. C. Detection of a Local High-Velocity Absorption-Line System toward HD 93721. *B. E. Penprase & J. C. Blades.* 391, 276, 89-D1 (1992)

See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera. *J. C. Blades, M. J. Barlow, R. Albrecht, C. Barbieri, A. Boksenberg, P. Crane, J. M. Deharveng, M. J. Disney, P. Jakobsen, T. M. Kamperman, I. R. King, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, S. Osmer, & W. B. Sparks.* 398, L41, 187-F7 (1992)

BLAES, O. M. Using Gamma-Ray Bursts to Detect a Cosmological Density of Compact Objects. *O. M. Blaes & R. L. Webster.* 391, L63, 99-D7 (1992)

On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)

BLAIR, W. P. Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

BLAIR, WILLIAM P. Six Balmer-dominated Supernova Remnants: Erratum. *R. Chris Smith, Robert P. Kirshner, William P. Blair, & P. Frank Winkler.* 384, 665, 10-D1 (1992) (Orig. paper in 375, 652, 120-G1 (1991))

See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)

A Rapid Decline in the Optical Emission from SN 1957D in M83. *Knox S. Long, P. Frank Winkler, & William P. Blair.* 395, 632, 151-A5 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068: Erratum. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 397, L127, 181-F12 (1992) (Orig. paper in 394, L37, 139-B7 (1992))

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

BLAKE, GEOFFREY A. IRAS 16293−2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

Chemistry in Circumstellar Disks: CS toward HL Tauri. *Geoffrey A. Blake, Ewine F. van Dishoeck, & Anneila I. Sargent.* 391, L99, 100-A5 (1992)

BLANCHARD, A. The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

BLANCO, A. Vacuum Ultraviolet Extinction Measurements on Cosmic Dust Analog Carbon Grains. *L. Colangeli, A. Blanco, S. Fonti, & E. Bussoletti.* 392, 284, 104-E1 (1992)

BLANDFORD, R. D. On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)

BLANDFORD, ROGER D. Magnetic Acceleration of Broad Emission-Line Clouds in Active Galactic Nuclei. *Robert T. Emmering, Roger D. Blandford, & Isaac Shlosman.* 385, 460, 19-A1 (1992)

On the Straight Arc in Abell 2390. *Aggeliki Kassiola, Israel Kovner, & Roger D. Blandford.* 396, 10, 155-C1 (1992)

BLAND-HAWTHORN, J. An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

BLAND-HAWTHORN, JONATHAN. The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

BLOCK, DAVID L. Primordial Giant Molecular Cloud Clumps Can Be Probed—Optically. *David L. Block, J. E. Dyson, & Claus Madsen.* 390, L13, 78-C1 (1992)

BLOEMHOF, E. E. Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

BLONDIN, JOHN M. Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

Hydrodynamic Instabilities in Supernova Remnants: Self-similar Driven Waves. *Roger A. Chevalier, John M. Blondin, & Robert T. Emmering.* 392, 118, 102-D9 (1992)

The Evolution of Cocoons Surrounding Light, Extragalactic Jets. *Denis F. Cioffi & John M. Blondin.* 392, 458, 108-A7 (1992)

Dynamics of Kepler's Supernova Remnant. *Kazimierz J. Borkowski, John M. Blondin, & Craig L. Sarazin.* 400, 222, 211-F5 (1992)

BLUM, ALBERT. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

BLUM, ROBERT D. Rate Coefficients for the Excitation of Infrared and Ultraviolet Lines in C II, N III, and O IV. *Robert D. Blum & Anil K. Pradhan.* 80, 425, 28-C11 (1992)

BLUMENTHAL, G. R. The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)

Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)

BLUMENTHAL, GEORGE R. The Efficiency of Galaxy Formation in Clusters. *Laurence P. David & George R. Blumenthal.* 389, 510, 67-G1 (1992)

BODO, G. Radiative Acceleration by Synchrotron Sources. *G. Ghisellini, G. Bodo, & E. Trussoni.* 401, 87, 222-B5 (1992)

BÖHM-VITENSE, ERIKA. Carbon and Nitrogen Abundances Determined from Transition Layer Lines. *Erika Böhm-Vitense & José Mena-Werth.* 390, 253, 77-B4 (1992)

Absorption-Line Profiles in a Companion Spectrum of a Mass-losing Cool Supergiant. *Liliya L. Rodrigues & Erika Böhm-Vitense.* 401, 695, 231-B10 (1992)

BÖRNER, G. On the Error Estimates of Correlation Functions. *H. J. Mo, Y. P. Jing, & G. Börner.* 392, 452, 107-G13 (1992)

BOESGAARD, ANN MERCHANT. Chemical Composition of Open Clusters. III. Iron and Carbon in F Dwarfs in Coma, Praesepe, and M67. *Eileen D. Friel & Ann Merchant Boesgaard.* 387, 170, 39-A13 (1992)

BOGDAN, T. J. The Conversion of *p*-Modes to Slow Modes and the Absorption of Acoustic Waves by Sunspots. *H. C. Spruit & T. J. Bogdan.* 391, L109, 100-B7 (1992)

Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

BOGDAN, THOMAS J. Localized Sources of Propagating Acoustic Waves in the Solar Photosphere. *Timothy M. Brown, Thomas J. Bogdan, Bruce W. Lites, & John H. Thomas.* 394, L65, 139-E7 (1992)

BOGEY, M. Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

BOGGESS, N. W. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

The *COBE* Mission: Its Design and Performance Two Years after Launch. *N. W. Boggess, J. C. Mather, R. Weiss, C. L. Bennett, E. S. Cheng, E. Dwek, S. Gulkis, M. G. Hauser, M. A. Janssen, T. Kelsall, S. S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, R. F. Silverberg, G. F. Smoot, D. T. Wilkinson, & E. L. Wright.* 397, 420, 175-G11 (1992)

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

BOHLENDER, DAVID A. γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)

BOHLIN, R. C. Search for Partial Systemic Lyman Edges in Nearby Quasars. *A. P. Koratkar, A. L. Kinney, & R. C. Bohlin.* 400, 435, 215-F9 (1992)

BOHLIN, RALPH C. The Identification of Highly Ionized Metal Species in the Hot DA1 White Dwarf G191-B2B with the *Hubble Space Telescope* Faint Object Spectrograph. *Edward M. Sion, Ralph C. Bohlin, Richard W. Tweedy, & Gerard P. Vauclair.* 391, L29, 92-B11 (1992)

See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B5 (1992)

BOILY, E. Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

BOKSENBERG, A. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

BOLDT, E. A. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

BOLDT, ELIHU. Cross-Correlation of the X-Ray Background with Nearby Galaxies: Erratum. *Keith Jahoda, Ofer Lahav, Richard F. Mushotzky, & Elihu Boldt.* 399, L107, 201-E8 (1992) (Orig. paper in 378, L37, 162-D7 (1991))

BOLTE, MICHAEL. CCD Photometry in the Globular Cluster NGC 288. I. Blue Stragglers and Main-Sequence Binary Stars. *Michael Bolte.* 82, 145, 51-B7 (1992)

BOLTON, C. T. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

Propagating Absorption Enhancements in the Wind of the Extreme Of Supergiant HD 151804. *A. W. Fullerton, D. R. Gies, & C. T. Bolton.* 390, 650, 83-D1 (1992)

BONANNO, G. Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

BOND, HOWARD E. The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

BONNELL, IAN. Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)

A Binary Origin for FU Orionis Stars. *Ian Bonnell & Pierre Bastien.* 401, L31, 227-E1 (1992)

Fragmentation of Elongated Cylindrical Clouds. V. Dependence of Mass Ratios on Initial Conditions. *Ian Bonnell & Pierre Bastien.* 401, 654, 230-F1 (1992)

BONNET-BIDAUD, J. M. See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477).

BONNOR, W. B. Models of Voids in the Expanding Universe. II.: Erratum. *W. B. Bonnor & A. Chamorro.* 391, 876, 98-G7 (1992) (Orig. paper in 378, 461, 158-B7 (1991))

BONOMETTO, SILVIO A. Thermal Evolution of Phases during the Cosmological Quark-Hadron Transition. *Michele Mariani & Silvio A. Bonometto.* 385, 393, 18-B5 (1992)

BOOTH, JOHN. Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)

BOOTHROYD, ARNOLD I. The Creation of Superrich Lithium Giants. *I.-Juliana Sackmann & Arnold I. Boothroyd.* 392, L71, 113-D3 (1992)

Breakdown of the Core Mass–Luminosity Relation at High Luminosities on the Asymptotic Giant Branch. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 393, L21, 120-D1 (1992)

BOOZER, ALLEN H. Dissipation of Magnetic Energy in the Solar Corona. *Allen H. Boozer.* 394, 357, 132-D4 (1992)

BOPP, BERNARD W. Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)

BORGANI, STEFANO. Multifractal Properties of Cosmological *N*-Body Simulations. *Riccardo Valdarnini, Stefano Borgani, & Antonello Provenzale.* 394, 422, 134-E7 (1992)

The Angular Three-Point Function of Galaxy Clusters. *Stefano Borgani, Yipeng Jing, & Manolis Plionis.* 395, 339, 146-D5 (1992)

BORKOWSKI, KAZIMIERZ J. Dynamics of Kepler's Supernova Remnant. *Kazimierz J. Borkowski, John M. Blondin, & Craig L. Sarazin.* 400, 222, 211-F5 (1992)

BORNMANN, P. L. Fluid Flow in a Jet and the Ca XIX Line Profiles Observed during Solar Flares. *P. L. Bornmann & J. R. Lemen.* 385, 363, 16-D1 (1992)

BOROSON, T. A. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

BOROSON, TODD A. The Emission-Line Properties of Low-Redshift Quasi-stellar Objects. *Todd A. Boroson & Richard F. Green.* 80, 109, 23-G9 (1992)

The Optical Properties of IR-selected and Mg II Broad Absorption Line Quasars. *Todd A. Boroson & Karie A. Meyers.* 397, 442, 176-B13 (1992)

Evidence against Some Orientation Effects in Radio-quiet Quasars. *Todd A. Boroson.* 399, L15, 200-A11 (1992)

BORRA, E. F. Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

BORRA, ERMANNO F. The Case for Liquid Mirrors in Orbiting Telescopes. *Ermanno F. Borra.* 392, 375, 105-E7 (1992)

BOSCHÁN, P. Cluster Correlations from *N*-Point Correlation Amplitudes. *I. Szapudi, A. S. Szalay, & P. Boschán.* 390, 350, 79-E7 (1992)

BOSMA, A. The Opacity of Spiral Disks. *A. Bosma, Y. Byun, K. C. Freeman, & E. Athanassoula.* 400, L21, 214-C10 (1992)

BOSS, ALAN P. Protostellar Hydrodynamics: Constructing and Testing a Spatially and Temporally Second-Order–accurate Method. I. Spherical Coordinates. *Alan P. Boss & Elizabeth A. Myhill.* 83, 311, 62-B13 (1992)

BOTHUN, GREGORY D. Peculiar Velocities of Field Spiral Galaxies near and beyond the Great Attractor. *Gregory D. Bothun, Robert A. Schommer, T. B. Williams, Jeremy R. Mould, & J. P. Huchra.* 388, 253, 53-D10 (1992)

The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

Models of Star Formation in Interacting and Merging Disk Galaxies. *J. Christopher Mihos, Douglas O. Richstone, & Gregory D. Bothun.* 400, 153, 210-G4 (1992)

A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)

BOTTANI, S. On the Origin of the Dipole Anisotropy as Determined by Quadrupole Measurements. *S. Bottani, P. de Bernardis, & F. Melchiorri.* 384, L1, 6-A9 (1992)

BOUCHET, F. R. Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

BOUCHET, FRANÇOIS R. The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

Gravity and Count Probabilities in an Expanding Universe. *François R. Bouchet & Lars Hernquist.* 400, 25, 209-C13 (1992)

BOUCHET, L. See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

BOUCHET, P. See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477).

BOUGHN, S. P. Limits on Gaussian Fluctuations in the Cosmic Microwave Background at 19.2 GHz. *S. P. Boughn, E. S. Cheng, D. A. Cottingham, & D. J. Fixsen.* 391, L49, 99-C1 (1992)

BOULANGER, F. Star Formation in Taurus. I. The *IRAS* Faint Source Survey. *C. A. Beichman, F. Boulanger, & M. Moshir.* 386, 248, 27-C5 (1992)

A High-Resolution 21 Centimeter Line Study of Infrared Cirrus. *G. Joncas, F. Boulanger, & P. E. Dewdney.* 397, 165, 170-A10 (1992)

BOULARES, AHMED. Magnetohydrodynamic Wave Damping by Cosmic-Ray Viscosity. *Ahmed Boulares & Gregor Morfill.* 400, 622, 218-B6 (1992)

BOWEN, DAVID V. The Kinematics of Intermediate-Redshift Gaseous Galaxy Halos. *Kenneth M. Lanzetta & David V. Bowen.* 391, 48, 86-E14 (1992)

BOWERS, C. W. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

BOWERS, CHARLES W. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P.*

Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond. 400, 214, 211-E8 (1992)
See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

BOWERS, P. F. Location of the Dust Formation Region for Mira Variables. *P. F. Bowers.* 390, L27, 78-E1 (1992)
VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 392, 249, 104-A9 (1992)
VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 399, 743, 207-C1 (1992) (Orig. paper in 392, 249, 104-A9 (1992))

BOWYER, STUART. Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

BOYD, R. N. Gamma-Ray Line Afterglow from Burst Environments. *H. S. Fencl, R. N. Boyd, & Dieter Hartmann.* 401, 120, 222-E1 (1992)

BOYER, D. W. Multiple Periodicities in the Solar Magnetic Field: Possible Origin in a Multiple-Mode Solar Dynamo. *D. W. Boyer & E. H. Levy.* 396, 340, 159-C6 (1992)

BOZYAN, ELIZABETH P. Optical Identification, Radio Galaxy Environment, and Statistical Properties for a Homogeneous Sample of 3196 Radio Sources from the Texas Survey. *Elizabeth P. Bozyan.* 82, 1, 49-B1 (1992)

BRAATEN, ERIC. Neutrino Emissivity of an Ultrarelativistic Plasma from Positron and Plasmino Annihilation. *Eric Braaten.* 392, 70, 101-G7 (1992)

BRADLEY, J. P. Combined Infrared and Analytical Electron Microscope Studies of Interplanetary Dust Particles. *J. P. Bradley, H. J. Humecki, & M. S. Germani.* 394, 643, 137-D8 (1992)

BRADLEY, P. A. Maximum Rates of Period Change for DA White Dwarf Models with Carbon and Oxygen Cores. *P. A. Bradley, D. E. Winget, & M. A. Wood.* 391, L33, 92-C1 (1992)
See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

BRADT, H. V. H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

BRAGA, J. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

BRAINE, JONATHAN. Upper Limits for CO in the Old Galactic Novae NQ Vulpeculae, QU Vulpeculae, and Nova Vulpeculae 1987 from IRAM Observations. *Steven N. Shore & Jonathan Braine.* 392, L59, 113-C1 (1992)

BRAINERD, J. J. Multiple Resonant Scattering in the Compton Upscatter Model of Gamma-Ray Bursts. *J. J. Brainerd.* 384, 545, 9-A1 (1992)
Synchrotron Emission from a Cosmological Jet as a Model of Gamma-Ray Bursts. *J. J. Brainerd.* 394, L33, 139-B1 (1992)

BRAINERD, T. G. The Mass Function of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 394, 409, 134-D5 (1992)
The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 400, 398, 215-C5 (1992)

BRANCH, DAVID. The Hubble Constant from Nickel Radioactivity in Type Ia Supernovae. *David Branch.* 392, 35, 101-D9 (1992)
Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

BRANDENBURG, AXEL. Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

BRANDUARDI-RAYMONT, G. Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

BRASSARD, P. Adiabatic Properties of Pulsating DA White Dwarfs. II. Mode Trapping in Compositionally Stratified Models. *P. Brassard, G. Fontaine, F. Wesemael, & C. J. Hansen.* 80, 369, 27-E3 (1992)
Adiabatic Properties of Pulsating DA White Dwarfs. III. A Finite-Element Code for Solving Nonradial Pulsation Equations. *P. Brassard, C. Pelletier, G. Fontaine, & F. Wesemael.* 80, 725, 33-D11 (1992)
Adiabatic Properties of Pulsating DA White Dwarfs. IV. An Extensive Survey of the Period Structure of Evolutionary Models. *P. Brassard, G. Fontaine, F. Wesemael, & M. Tassoul.* 81, 747, 45-D3 (1992)
The Case of G226-29: Evidence for a Pulsating DA White Dwarf with a Thick Hydrogen Layer? *G. Fontaine, P. Brassard, P. Bergeron, & F. Wesemael.* 399, L91, 201-C13 (1992)

BRAUN, D. C. Scattering of p-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)
Local Acoustic Diagnostics of the Solar Interior. *D. C. Braun, C. A. Lindsey, Y. Fan, & S. M. Jefferies.* 392, 739, 111-D7 (1992)

BRAUN, ROBERT. Physical Properties of Neutral Gas in M31 and the Galaxy. *Robert Braun & René A. M. Walterbos.* 386, 120, 25-E10 (1992)

BREGER, M. Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

BREGER, MICHEL. A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)

BREGMAN, JESSE D. Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)

BREGMAN, JOEL N. Optical and Radio Variability in Blazars. *Beth R. Hufnagel & Joel N. Bregman.* 386, 473, 31-C5 (1992)
Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)
X-Ray Emission from SN 1986J in NGC 891. *Joel N. Bregman & Rachel A. Pildis.* 398, L107, 194-E7 (1992)

BRENNER, JERRELL D. Infrared Emission Spectra of Benzene and Naphthalene: Implications for the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *Jerrell D. Brenner & John R. Barker.* 388, L39, 52-D6 (1992)

BRESSAN, A. On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)
On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)
Setting the Clock of Stellar Models. *G. Bertelli, A. Bressan, & C. Chiosi.* 392, 522, 108-F13 (1992)

BRESSAN, ALESSANDRO. The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)

BRIDGES, T. J. Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J. Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes.* 81, 251, 38-D5 (1992)

BRIDLE, ALAN H. Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

BRIEL, U. The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

BRILEY, MICHAEL M. CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

BRINK, C. Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

BRINKS, ELIAS. An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

BRISSENDEN, R. J. V. S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

BROMAGE, G. E. The Origin of the Far-Ultraviolet Continuum in Solar and Stellar Flares. *K. J. H. Phillips, G. E. Bromage, & J. G. Doyle.* 385, 731, 22-B11 (1992)

BROSIUS, J. W. Decimetric Solar Type U Bursts: VLA and PHOENIX Observations. *Markus J. Aschwanden, T. S. Bastian, A. O. Benz, & J. W. Brosius.* 391, 380, 90-E13 (1992)

Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

BROSIUS, JEFFREY W. Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

BROWN, A. Coordinated *Ginga, IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

BROWN, ALEXANDER. A VLA 3.6 Centimeter Survey of N-Type Carbon Stars. *Donald G. Luttermoser & Alexander Brown.* 384, 634, 10-A7 (1992)

BROWN, LARRY W. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

BROWN, LAWRENCE E. Possible Sources of the Population I Lithium Abundance and Light-Element Evolution. *Lawrence E. Brown.* 389, 251, 63-B1 (1992)

SiC Particles from Asymptotic Giant Branch Stars: Mg Burning and the *s*-Process. *Lawrence E. Brown & Donald D. Clayton.* 392, L79, 113-E1 (1992)

BROWN, ROBERT L. [C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

BROWN, TIMOTHY M. Localized Sources of Propagating Acoustic Waves in the Solar Photosphere. *Timothy M. Brown, Thomas J. Bogdan, Bruce W. Lites, & John H. Thomas.* 394, L65, 139-E7 (1992)

BRUHWEILER, F. C. Newly Identified Main-Sequence A Stars with Circumstellar Dust. *K.-P. Cheng, F. C. Bruhweiler, Y. Kondo, & C. A. Grady.* 396, L83, 167-C1 (1992)

BRUHWILER, DAVID L. The Effect of Line Tying on Parker's Instability. *Ellen G. Zweibel & David L. Bruhwiler.* 399, 318, 199-C11 (1992)

BRUNI, MARCO. Cosmological Perturbations and the Physical Meaning of Gauge-invariant Variables. *Marco Bruni, Peter K. S. Dunsby, & George F. R. Ellis.* 395, 34, 140-E7 (1992)

Covariant Perturbations in a Multifluid Cosmological Medium. *Peter K. S. Dunsby, Marco Bruni, & George F. R. Ellis.* 395, 54, 140-G1 (1992)

BRYJA, CLAIA. Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)

BUCCIARELLI, B. Catalog-to-Catalog Reductions: Results for the FK, N30, and GC Catalogs. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 392, 746, 111-E9 (1992)

BUCHHORN, M. No Back-Side Infall into the Great Attractor. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 389, L5, 66-B6 (1992)

A Southern Sky Survey of the Peculiar Velocities of 1355 Spiral Galaxies. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 81, 413, 41-B1 (1992)

BUCHLER, J. ROBERT. Toward a Resolution of the Bump and Beat Cepheid Mass Discrepancies. *Paweł Moskalik, J. Robert Buchler, & Ariel Marom.* 385, 685, 21-E13 (1992)

Pulsational Study of BL Herculis Models. I. Radial Velocities. *J. Robert Buchler & Paweł Moskalik.* 391, 736, 97-B6 (1992)

BUCKLEY, D. A. H. S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

BUCKLEY, DAVID. The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

BÜTTGENBACH, THOMAS H. Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

BUJARRABAL, V. High-Excitation ^{29}SiO and ^{30}SiO Maser Emission. *J. Cernicharo & V. Bujarrabal.* 401, L109, 233-E5 (1992)

BULIK, T. The Polar Cap Structure of the X-Ray Pulsar 4U 1538–52. *T. Bulik, P. Mészáros, J. W. Woo, F. Nagase, & K. Makishima.* 395, 564, 149-G9 (1992)

BUOTE, DAVID A. X-Ray Constraints on the Shape of the Dark Matter in Five Abell Clusters. *David A. Buote & Claude R. Canizares.* 400, 385, 215-B3 (1992)

BURBIDGE, E. MARGARET. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

Detection of Ca II Absorption in the QSO 0958+559 Due to a Heiles Shell in NGC 3079. *Donna S. Womble, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 388, 55, 49-G1 (1992)

Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)

See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226–1024.

BURBIDGE, G. A Catalog of Absorption in the Spectra of Quasi-stellar Objects: Erratum (Orig. paper in 77, 203, 47-B1 (1991)). *V. Junkkarinen, A. Hewitt, & G. Burbidge.* 81, 409, 40-F5 (1992) (Orig. paper in 77, 203, 47-B1 (1991))

Possible Explanations of the Large Angle Fluctuations of the Microwave Background. *F. Hoyle & G. Burbidge.* 399, L9, 200-A1 (1992)

BURG, RICHARD. Optimal Grazing Incidence Optics and Its Application to Wide-Field X-Ray Imaging. *Christopher J. Burrows, Richard Burg, & Riccardo Giacconi.* 392, 760, 111-F13 (1992)

The Spatial Distribution of Active Galactic Nuclei. I. The Density of Seyfert Galaxies and Liners. *John Huchra & Richard Burg.* 393, 90, 115-C1 (1992)

BURGARELLA, DENIS. The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*. *Denis Burgarella & Francesco Paresce.* 389, L29, 66-D10 (1992)

The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*: Erratum. *Denis Burgarella & Francesco Paresce.* 395, L123, 154-D13 (1992) (Orig. paper in 389, L29, 66-D10 (1992))

BURKE, B. F. The Radio Time Delay in the Double Quasar 0957+561. *J. Lehár, J. N. Hewitt, D. H. Roberts, & B. F. Burke.* 384, 453, 7-G1 (1992)

BURKE, BERNARD F. Reconciling the Image Brightness Ratios in the Gravitational Lens System 0957+561. *Samuel R. Conner, Joseph Lehár, & Bernard F. Burke.* 387, L61, 48-B7 (1992)

BURKE, LUKE F. NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

BURKE, P. G. Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)

BURKE, V. M. C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)

BURKERT, A. The Collapse of Our Galaxy and the Formation of the Galactic Disk. *A. Burkert, J. W. Truran, & G. Hensler.* 391, 651, 96-B4 (1992)

BURNS, JACK O. Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)

Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)

VLA Observations of the Inner Lobes of Centaurus A. *David A. Clarke, Jack O. Burns, & Michael L. Norman.* 395, 444, 147-G7 (1992)

BURROWS, ADAM. Shock Breakout in SN 1987A. *Lisa Ensman & Adam Burrows.* 393, 742, 125-A10 (1992)

BURROWS, CHRISTOPHER J. Optimal Grazing Incidence Optics and Its Application to Wide-Field X-Ray Imaging. *Christopher J. Burrows, Richard Burg, & Riccardo Giacconi.* 392, 760, 111-F13 (1992)

BURROWS, D. N. The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V. Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

BURSTEIN, DAVID. Spectral Synthesis in the Ultraviolet. IV. A Library of Mean Stellar Groups. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 82, 197, 52-A1 (1992)

Dynamically Hot Galaxies. I. Structural Properties. *Ralf Bender, David Burstein, & S. M. Faber.* 399, 462, 203-F1 (1992)

BURTON, MICHAEL G. Mid-Infrared Rotational Line Emission from Interstellar Molecular Hydrogen. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 399, 563, 204-G7 (1992)

BURYAK, OLGA E. On Formation of the Superlarge Structure in the Universe. *Olga E. Buryak, Marek Demiański, & Andrej G. Doroshkevich.* 393, 464, 121-F1 (1992)

BUSHOUSE, HOWARD A. A Near-Infrared Imaging Survey of Interacting Galaxies: The Small Angular-Size Arp Systems. *Howard A. Bushouse & S. Adam Stanford.* 79, 213, 16-G11 (1992)

BUSON, L. M. The External Origin of the Gas in S0 Galaxies. *F. Bertola, L. M. Buson, & W. W. Zeilinger.* 401, L79, 233-A12 (1992)

BUSSO, M. *s*-Processing in Massive Stars as a Function of Metallicity and Interpretation of Observational Trends. *C. M. Raiteri, R. Gallino, & M. Busso.* 387, 263, 40-C1 (1992)

Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)

BUSSOLETTI, E. Temperature Dependence of Infrared Bands Produced by Polycyclic Aromatic Hydrocarbons. *L. Colangeli, V. Mennella, & E. Bussoletti.* 385, 577, 20-C10 (1992)

Thermal Emission Spectra from Polycyclic Aromatic Hydrocarbon Molecules of Astrophysical Interest. *V. Mennella, L. Colangeli, & E. Bussoletti.* 391, L45, 92-D1 (1992)

Vacuum Ultraviolet Extinction Measurements on Cosmic Dust Analog Carbon Grains. *L. Colangeli, A. Blanco, S. Fonti, & E. Bussoletti.* 392, 284, 104-E1 (1992)

Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

BUTCHER, HARVEY R. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

BUTLER, R. PAUL. The Discovery of an Extremely Low Amplitude Cepheid? *R. Paul Butler.* 394, L25, 133-D5 (1992)

BUTNER, HAROLD M. Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

BYUN, Y. The Opacity of Spiral Disks. *A. Bosma, Y. Byun, K. C. Freeman, & E. Athanassoula.* 400, L21, 214-C10 (1992)

CABLE, S. On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

CABRERA-CAÑO, JESÚS. Influence of the Large-Scale Star Formation Pattern on the Galactic Distribution of Wolf-Rayet Stars. *Emilio J. Alfaro, Antonio J. Delgado, & Jesús Cabrera-Caño.* 386, L47, 36-C5 (1992)

Corrugations and Star Formation Activity: The Carina-Sagittarius Arm. *Emilio J. Alfaro, Jesús Cabrera-Caño, & Antonio J. Delgado.* 399, 576, 205-A9 (1992)

CACCIARI, C. On the Absolute Magnitude of RR Lyrae Stars: UU Ceti, RV Phoenicis, and W Tucanae. *C. Cacciari, G. Clementini, & J. A. Fernley.* 396, 219, 157-G5 (1992)

CACCIN, B. New Observations of 5 Minute Oscillations in the Opposite Flanks of Solar Fraunhofer Lines. I. The Effect of Varying the Spectral and Temporal Resolution. *L. Bertello, B. Caccin, P. Francia, & E. Pietropaolo.* 401, 768, 232-B1 (1992)

CAILLAULT, J.-P. Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

CAILLOUX, M. An Arc System with a Radial Gravitational Image in the Cluster MS 2137−23. *B. Fort, O. Le Fevre, F. Hammer, & M. Cailloux.* 399, L125, 208-A1 (1992)

CAIMMI, R. The Potential Energy Tensor for Subsystems. *R. Caimmi & L. Secco.* 395, 119, 141-E11 (1992)

CAIRNS, I. H. Connection between Ambient Density Fluctuations and Clumpy Langmuir Waves in Type III Radio Sources. *P. A. Robinson, I. H. Cairns, & D. A. Gurnett.* 387, L101, 48-F1 (1992)

CALIFANO, FRANCESCO. Nonresonant Resistive Dissipation of Compressible Magnetohydrodynamic Waves. *Francesco Califano, Claudio Chiuderi, & Giorgio Einaudi.* 390, 560, 82-C8 (1992)

CALLAWAY, J. Excitation Rate Coefficients for Transitions among the $n = 1$, 2, and 3 Levels of He^+. *K. M. Aggarwal, J. Callaway, A. E. Kingston, & K. Unnikrishnan.* 80, 473, 28-G13 (1992)

CALLY, P. S. Steady and Nonsteady Siphon Flow in Hot Coronal Loops. *T. D. Robb & P. S. Cally.* 397, 329, 172-A1 (1992)

CALVANI, M. Twin Peaks: IC 4329A and Arakelian 120. *P. Marziani, M. Calvani, & J. W. Sulentic.* 393, 658, 124-A5 (1992)

CALVET, NURIA. Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

Balmer Line Profiles for Infalling T Tauri Envelopes. *Nuria Calvet & Lee Hartmann.* 386, 239, 27-B8 (1992)

CALZETTI, D. Lyman-Alpha Emission in Star-forming Galaxies: Low-Redshift Counterparts of Primeval Galaxies? *D. Calzetti & A. L. Kinney.* 399, L39, 200-D5 (1992)

CALZETTI, DANIELA. The Shape of the Two-Point Correlation Function: Evidence for a Double Power Law. *Daniela Calzetti, Mauro Giavalisco, & Avery Meiksin.* 398, 429, 189-D7 (1992)

CAMERON, R. A. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

CAMPBELL, ALISON. On Determining the Primordial Helium Abundance from the Spectra of H II Galaxies. *Alison Campbell.* 401, 157, 223-A1 (1992)

CAMPINS, HUMBERTO. Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin 1989c_1. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)

CAMPOS FAUTH, A. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

CAMURANI, LUCA. The Redshift Evolution of the Lyman-Alpha Forest: Blending Effects. *Dario Trevese, Emanuele Giallongo, & Luca Camurani.* 398, 491, 190-C1 (1992)

CANAL, RAMON. The Quasi-static Evolution of ONeMg Cores: Explosive Ignition Densities and the Collapse/Explosion Alternative. *Ramon Canal, Jordi Isern, & Javier Labay.* 398, L49, 187-G7 (1992)

CANFIELD, R. C. The Practical Application of the Magnetic Virial Theorem. *J. A. Klimchuk, R. C. Canfield, & J. E. Rhoads.* 385, 327, 16-A1 (1992)

CANFIELD, RICHARD C. Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

Coordinated Spectral and Temporal Hα Observations of a Solar Flare. *J.-F. de La Beaujardière, Alan L. Kiplinger, & Richard C. Canfield.* 401, 761, 232-A5 (1992)

CANIZARES, CLAUDE R. The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

X-Ray Constraints on the Shape of the Dark Matter in Five Abell Clusters. *David A. Buote & Claude R. Canizares.* 400, 385, 215-B3 (1992)

CANNIZZO, JOHN K. Accretion Disks in Active Galactic Nuclei: Vertically Averaged Models. *John K. Cannizzo & Christine M. Reiff.* 385, 87, 13-B1 (1992)

Accretion Disks in Active Galactic Nuclei: Vertically Explicit Models. *John K. Cannizzo.* 385, 94, 13-B9 (1992)

The Secondary Outburst Maximum of T Coronae Borealis: Implications for the Physics of Accretion Disks. *John K. Cannizzo & Scott J. Kenyon.* 386, L17, 29-C7 (1992)

Cold Dissipationless Collapse of Spherical Systems: Sensitivity to the Initial Density Law. *John K. Cannizzo & Timothy C. Hollister.* 400, 58, 209-F6 (1992)

On the Long-Term Behavior of SS Cygni. *John K. Cannizzo & Janet A. Mattei.* 401, 642, 230-E1 (1992)

CANNON, R. C. The Structure and Evolution of Thorne-Żytkow Objects. *R. C. Cannon, P. P. Eggleton, A. N. Żytkow, & P. Podsiadlowski.* 386, 206, 26-F5 (1992)

CANTÓ, J. VLA Imaging of a Possible Circumstellar Disk around HL Tauri. *L. F. Rodríguez, J. Cantó, J. M. Torrelles, J. F. Gómez, & P. T. P. Ho.* 393, L29, 120-E1 (1992)

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

High-Velocity OH in Absorption: A New Tracer of Shocked Gas in Outflows? *A. Ruiz, L. F. Rodríguez, J. Cantó, & I. F. Mirabel.* 398, 139, 183-F3 (1992)

CANTÓ, JORGE. On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

CANUTO, V. M. Further Improvements of a New Model for Turbulent Convection in Stars. *V. M. Canuto & I. Mazzitelli.* 389, 724, 70-D1 (1992)

Turbulent Convection with Overshooting: Reynolds Stress Approach. *V. M. Canuto.* 392, 218, 103-F1 (1992)

CAPPELLARO, E. Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

CAPUANO, JOHN M., JR. Dust and the Transfer of Stellar Radiation within Galaxies. *Adolf N. Witt, Harley A. Thronson, Jr., & John M. Capuano, Jr.* 393, 611, 123-D7 (1992)

CAPUTO, FILIPPINA. The Galactic Globular Cluster System: Empirical Relationship between Light-to-Mass Ratio and Metallicity. *Filippina Caputo & Renato De Santis.* 401, 260, 224-C1 (1992)

CARAVEO, P. A. High-Resolution Optical Imaging of the Large Magellanic Cloud Plerion 0540−69. *P. A. Caraveo, G. F. Bignami, S. Mereghetti, & M. Mombelli.* 395, L103, 154-B11 (1992)

CARAVEO, PATRIZIA A. On the Optical Counterpart of 1E 1207.4−5209, the Central X-Ray Source of a Ring-shaped Supernova Remnant. *Giovanni F. Bignami, Patrizia A. Caraveo, & Sandro Mereghetti.* 389, L67, 73-D5 (1992)

CARDELLI, JASON A. Fractionation of CO in the Diffuse Clouds toward ζ Ophiuchi. *Yaron Sheffer, S. R. Federman, David L. Lambert, & Jason A. Cardelli.* 397, 482, 176-G3 (1992)

Deviations of Interstellar Extinctions from the Mean *R*-dependent Extinction Law. *John S. Mathis & Jason A. Cardelli.* 398, 610, 191-F7 (1992)

Ultraviolet Observations of the Gas Phase Abundances in the Diffuse Clouds toward ζ Ophiuchi at 3.5 Kilometers per Second Resolution. *Blair D. Savage, Jason A. Cardelli, & Ulysses J. Sofia.* 401, 706, 231-C9 (1992)

CARILLI, C. L. Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

H I Imaging of Four Quasar-Galaxy Pairs: The Parent Galaxies of Low-Redshift Quasar Absorption Systems. *C. L. Carilli & I. H. van Gorkom.* 399, 373, 202-E7 (1992)

Discovery of Neutral Hydrogen 21 Centimeter Absorption at Redshift 0.25 toward PKS 1413+135. *C. L. Carilli, Eric S. Perlman, & John T. Stocke.* 400, L13, 214-C1 (1992)

CARINI, MICHAEL T. The Optical Variability of PKS 2155−304. *Michael T. Carini & H. Richard Miller.* 385, 146, 13-G1 (1992)

CARLBERG, R. G. Large-Scale Structure in a Low-Bias Universe. *H. M. P. Couchman & R. G. Carlberg.* 389, 453, 67-B6 (1992)

Faint Galaxy Evolution via Interactions. *R. G. Carlberg & Stéphane Charlot.* 397, 5, 168-B6 (1992)

Merging and Fast Galaxy Evolution. *R. G. Carlberg.* 399, L31, 200-C7 (1992)

CARLSON, BARBARA E. The Abundance and Distribution of Water Vapor in the Jovian Troposphere as Inferred from *Voyager* IRIS Observations. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 388, 648, 58-C7 (1992)

Ortho-para–Hydrogen Equilibration on Jupiter. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 393, 357, 118-E6 (1992)

On the Inclusion of the Hydrogen Dimer in the Analysis of *Voyager* IRIS Spectra. *Barbara E. Carlson, Qiancheng Ma, & Andrew A. Lacis.* 394, L29, 133-D10 (1992)

CARLSON, ERIC D. Self-interacting Dark Matter. *Eric D. Carlson, Marie E. Machacek, & Lawrence J. Hall.* 398, 43, 182-E7 (1992)

CARLSSON, MATS. Non-LTE Radiating Acoustic Shocks and Ca II K2V Bright Points. *Mats Carlsson & Robert F. Stein.* 397, L59, 173-G11 (1992)

CARLSTROM, J. E. The Continuum Flux from Sagittarius A* at 222 GHz. *E. Serabyn, J. E. Carlstrom, & N. Z. Scoville.* 401, L87, 233-B11 (1992)

CARLSTROM, JOHN E. High-Velocity HCO^+ Emission Associated with the DR 21 Molecular Outflow. *Rognvald P. Garden & John E. Carlstrom.* 392, 602, 109-F7 (1992)

CARNEY, BRUCE W. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)

CARPENTER, KENNETH G. Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

CARR, JOHN S. Measurement of CO Overtone Line Profiles in SVS 13. *John S. Carr & Alan T. Tokunaga.* 393, L67, 127-D7 (1992)

CARRAL, PATRICIA. The Molecular Core in G34.3+0.2: Millimeter Interferometric Observations of HCO^+, $H^{13}CN$, $HC^{15}N$, and SO. *Patricia Carral & William J. Welch.* 385, 244, 15-A4 (1992)

CARRIGAN, B. J. Radiation Transfer in Gamma-Ray Bursts. *B. J. Carrigan & J. I. Katz.* 399, 100, 196-D6 (1992)

CARSWELL, R. F. The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

CARTER, BRANDON. Cosmic Gamma-Ray Bursts from Black Hole Tidal Disruption of Stars? *Brandon Carter.* 391, L67, 99-D13 (1992)

CASH, WEBSTER. Extreme Ultraviolet Spectroscopy of G191-B2B: Direct Observation of Ionization Edges. *Erik Wilkinson, James C. Green, & Webster Cash.* 397, L51, 173-F13 (1992)

Extreme Ultraviolet Spectroscopy of Capella. *James C. Green, Erik Wilkinson, Thomas R. Ayres, & Webster Cash.* 397, L99, 181-C8 (1992)

CASH, WEBSTER C. The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

CASSATELLA, ANGELO. The Nature of the Recurrent Nova T Coronae Borealis: Ultraviolet Evidence for a White Dwarf Accretor. *Pier Luigi Selvelli, Angelo Cassatella, & Roberto Gilmozzi.* 393, 289, 117-F12 (1992)

CASSINELLI, J. P. An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

Polarization Cancellation in the Two-Component Winds from Wolf-Rayet Stars. *M. Taylor & J. P. Cassinelli.* 401, 311, 224-G5 (1992)

CASSINELLI, JOSEPH P. Constraints on the Surface Magnetic Fields of Hot Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 386, 695, 33-G13 (1992)

CASTAGNOLI, C. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

CASTELAZ, MICHAEL. MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

CASTELLANI, MARCO. The Contribution of Advanced Post-Hayashi Track Evolutionary Phases to the Ultraviolet Light of Elliptical Galaxies. *Marco Castellani, Marco Limongi, & Amedeo Tornambè.* 389, 227, 62-G1 (1992)

CASTELLANI, VITTORIO. The Evolution through H and He Burning of Galactic Cluster Stars. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 78, 517, 9-G11 (1992)

CASTELLINA, A. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

CASTOR, JOHN I. A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

CASTRO, CATARINA. First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

CASWELL, J. L. G308.8–0.1: An Unusual Supernova Remnant Containing a Short-Period Pulsar, PSR J1341–6220. *J. L. Caswell, M. J. Kesteven, R. T. Stewart, D. K. Milne, & R. F. Haynes.* 399, L151, 208-D1 (1992)

CATTADORI, C. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

CATTANEO, F. Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

CATTANEO, FAUSTO. Nonlinear Restrictions on Dynamo Action. *Samuel I. Vainshtein & Fausto Cattaneo.* 393, 165, 116-B5 (1992)

CAULET, ADELINE. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

CAVALIERE, A. Merging in Cosmic Structures. *A. Cavaliere, S. Colafrancesco, & N. Menci.* 392, 41, 101-E1 (1992)

CAWLEY, M. F. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.

CAWTHORNE, T. V. A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

CECIL, GERALD. The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

CELLONE, SERGIO A. Dust within Globular Clusters: A Large Bubble in NGC 6624? *Juan C. Forte, Sergio A. Cellone, Mariano Méndez, & E. Irene Vega.* 388, 383, 55-B4 (1992)

CELOTTI, A. A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

CEN, RENYUE. A Hydrodynamic Approach to Cosmology: Methodology. *Renyue Cen.* 78, 341, 7-B1 (1992)

A Hydrodynamic Treatment of the Cold Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah Ostriker.* 393, 22, 114-C12 (1992)

Statistics of the Cosmic Mach Number from Numerical Simulations of a Cold Dark Matter Universe. *Yasushi Suto, Renyue Cen, & Jeremiah P. Ostriker.* 395, 1, 140-B1 (1992)

Galaxy Clusters and Cold Dark Matter: A Low-Density Unbiased Universe? *Neta A. Bahcall & Renyue Cen.* 398, L81, 194-B6 (1992)

A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

A Three-dimensional Hydrodynamic Treatment of the Hot Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah P. Ostriker.* 399, 331, 202-B1 (1992)

Galaxy Formation and Physical Bias. *Renyue Cen & Jeremiah P. Ostriker.* 399, L113, 207-F7 (1992)

CEPA, JORDI. Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

CERNICHARO, J. High-Excitation ^{29}SiO and ^{30}SiO Maser Emission. *J. Cernicharo & V. Bujarrabal.* 401, L109, 233-E5 (1992)

CERNOHORSKY, J. Relativistic Two-Moment Neutrino Transport. *J. Cernohorsky & Ch. G. van Weert.* 398, 190, 184-C1 (1992)

CERRITO, PATRICIA B. Predicting Wolf's Sunspot Numbers with and without the Assumption of Periodicity. *Patricia B. Cerrito.* 393, 795, 125-G1 (1992)

CERRUTI, MIGUEL A. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

CHABOYER, BRIAN. The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)

CHABRIER, GILLES. The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)

The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)

CHAFFEE, F. H. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

CHAFFEE, FREDERIC H. An Objective Classification Scheme for QSO Spectra. *Paul J. Francis, Paul C. Hewett, Craig B. Foltz, & Frederic H. Chaffee.* 398, 476, 190-A13 (1992)

CHAFFEE, FREDERIC H., JR. Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

CHAKRABARTI, SANDIP K. Standing Shocks in Accretion Disks and the Spectra of Active Galactic Nuclei. *Sandip K. Chakrabarti & Paul J. Wiita.* 387, L21, 43-C4 (1992)

Spiral Shocks and Subday Variability in SS 433. *Sandip K. Chakrabarti & T. Matsuda.* 390, 639, 83-C1 (1992)

CHAKRABORTY, SUBENOY. Viscous Fluid in a Five-dimensional Cosmological Model. *Subenoy Chakraborty & Gopal Ch. Nandy.* 401, 437, 228-B6 (1992)

CHAMBAUD, G. Theoretical Vibration-Rotation Spectrum of Si_2C. *W. Gabriel, G. Chambaud, P. Rosmus, A. Spielfiedel, & N. Feautrier.* 398, 706, 192-G7 (1992)

CHAMBERS, K. C. *Hubble Space Telescope* Imaging of Distant Galaxies: 4C 41.17 at $z = 3.8$. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

CHAMBERS, KENNETH C. The Infrared Properties of Quasars and Radio Galaxies: Testing the Unification Schemes. *Timothy M. Heckman, Kenneth C. Chambers, & Marc Postman.* 391, 39, 86-E3 (1992)

Multicolor Images of Spatially Resolved Structures around High-Redshift Quasars. *Matthew D. Lehnert, Timothy M. Heckman, Kenneth C. Chambers, & George K. Miley.* 393, 68, 114-G12 (1992)

CHAMORRO, A. Models of Voids in the Expanding Universe. II.: Erratum. *W. B. Bonnor & A. Chamorro.* 391, 876, 98-G7 (1992) (Orig. paper in 378, 461, 158-B7 (1991))

CHAN, K. W. On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

CHAN, KIN-WING. Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

CHAN, KWING L. Downflows and Entropy Gradient Reversal in Deep Convection. *Kwing L. Chan & Detlef Gigas.* 389, L87, 73-F3 (1992)

CHANMUGAM, G. The White Dwarf Companion to PSR 0820+02. *D. Koester, G. Chanmugam, & D. Reimers.* 395, L107, 154-C7 (1992)

Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)

CHAPMAN, J. M. Discovery of Bipolar OH Maser Emission from the High-Latitude Supergiant Star HD 101584. *P. te Lintel Hekkert, J. M. Chapman, & A. A. Zijlstra.* 390, L23, 78-D9 (1992)

CHARBONNEAU, P. Angular Momentum Transport in Magnetized Stellar Radiative Zones. I. Numerical Solutions to the Core Spin-up Model Problem. *P. Charbonneau & K. B. MacGregor.* 387, 639, 46-E11 (1992)

Solar Spin-down with Internal Magnetic Fields. *P. Charbonneau & K. B. MacGregor.* 397, L63, 174-A3 (1992)

CHARLOT, STÉPHANE. Faint Galaxy Evolution via Interactions. *R. G. Carlberg & Stéphane Charlot.* 397, 5, 168-B6 (1992)

CHARNLEY, S. B. On the Molecular Complexity of the Hot Cores in Orion A: Grain Surface Chemistry as "The Last Refuge of the Scoundrel." *S. B. Charnley, A. G. G. M. Tielens, & T. J. Millar.* 399, L71, 201-A8 (1992)

CHATTERJEE, S. Some Remarks on Luminosity Distance and Nucleosynthesis in Higher Dimensional Cosmology. *S. Chatterjee.* 397, 1, 168-B1 (1992)

CHAU, H. F. Effects of Evolving Rotating Equilibrium Configurations on the Cooling and Spin-down of Pulsars. *K. S. Cheng, W. Y. Chau, J. L. Zhang, & H. F. Chau.* 396, 135, 156-G3 (1992)

Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)

CHAU, W. Y. Remarks on Triaxiality, Spin-up, and Magnetic Field Obliquity of Some Millisecond Pulsars. *W. Y. Chau, K. S. Cheng, & J. L. Zhang.* 390, 486, 81-D1 (1992)

Effects of Evolving Rotating Equilibrium Configurations on the Cooling and Spin-down of Pulsars. *K. S. Cheng, W. Y. Chau, J. L. Zhang, & H. F. Chau.* 396, 135, 156-G3 (1992)

CHAYER, PIERRE. Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

CHEN, C.-S. Power Spectra of Median- and Small-Scale Solar Convection. *D.-Y. Chou, C.-S. Chen, K.-T. Ou, & C.-C. Wang.* 396, 333, 159-B11 (1992)

CHEN, GRACE H. The Rotation of M Dwarfs. *Geoffrey W. Marcy & Grace H. Chen.* 390, 550, 82-B11 (1992)

CHEN, HAIQI. Dynamics of the Envelopes of Be Stars in the Equatorial Plane. *Haiqi Chen, J. M. Marlborough, & L. B. F. M. Waters.* 384, 605, 9-F1 (1992)

Dynamics of the Envelopes of Be Stars in the Equatorial Plane. II. The Influence of a Weak Magnetic Field on the Azimuthal Motion of a Slowly Expanding Wind. *Haiqi Chen & J. M. Marlborough.* 397, 242, 171-A3 (1992)

CHEN, HUA. ^{13}CO and HCO^+ Observations of *IRAS* Sources in L1641. *Hua Chen, Yasuo Fukui, & Ji Yang.* 398, 544, 190-G12 (1992)

CHEN, J. Fast Plasmoid Formation in Double Arcades. *J. M. Finn, P. N. Guzdar, & J. Chen.* 393, 800, 125-G7 (1992)

CHEN, PETER C. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

Ultraviolet Imaging Telescope Observations of the ScI Galaxy NGC 628 (M74). *Peter C. Chen, Robert H. Cornett, Morton S. Roberts, Ralph C. Bohlin, Susan G. Neff, Robert W. O'Connell, Ronald A. Parise, Andrew M. Smith, & Theodore P. Stecher.* 395, L41, 145-C5 (1992)

CHEN, W. P. Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)

CHEN, WAN. π^0-Decay Gamma-Ray Emission from Winds of Massive Stars. *Richard L. White & Wan Chen.* 387, L81, 48-D6 (1992)

CHEN, WEN PING. 10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)

CHENG, E. S. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

Limits on Gaussian Fluctuations in the Cosmic Microwave Background at 19.2 GHz. *S. P. Boughn, E. S. Cheng, D. A. Cottingham, & D. J. Fixsen.* 391, L49, 99-C1 (1992)

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

CHENG, F. H. Spectral Evolution of Accretion Disks of Dwarf Novae. III. Outburst Cycle of SS Cygni. *F. H. Cheng & D. N. C. Lin.* 389, 714, 70-C5 (1992)

The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

CHENG, F. Z. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

Comment on Red Giant Envelopes as Broad Emission-Line Clouds in Active Galactic Nuclei. *John Kwan, F. Z. Cheng, & Zongwei Li.* 393, 87, 115-B9 (1992)

CHENG, K. S. Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

Remarks on Triaxiality, Spin-up, and Magnetic Field Obliquity of Some Millisecond Pulsars. *W. Y. Chau, K. S. Cheng, & J. L. Zhang.* 390, 486, 81-D1 (1992)

Effects of Evolving Rotating Equilibrium Configurations on the Cooling and Spin-down of Pulsars. *K. S. Cheng, W. Y. Chau, J. L. Zhang, & H. F. Chau.* 396, 135, 156-G3 (1992)

Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)

CHENG, K.-P. See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

Newly Identified Main-Sequence A Stars with Circumstellar Dust. *K.-P. Cheng, F. C. Bruhweiler, Y. Kondo, & C. A. Grady.* 396, L83, 167-C1 (1992)

CHENG, KWANG P. See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

CHENG, KWANG-PING. See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

CHERCHNEFF, ISABELLE. Polycyclic Aromatic Hydrocarbons and Molecular Equilibria in Carbon-rich Stars. *Isabelle Cherchneff & John R. Barker.* 394, 703, 138-C4 (1992)

Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

CHEREPASHCHUK, A. M. Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

CHERNIN, LAWRENCE M. Properties of Swept-up Molecular Outflows. *Colin R. Masson & Lawrence M. Chernin.* 387, L47, 43-F1 (1992)

Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chernin & Colin R. Masson.* 396, L35, 160-F8 (1992)

CHERNOFF, DAVID F. Relaxation-driven Binary Mergers. *Sergio Gelato, David F. Chernoff, & Ira Wasserman.* 384, 15, 1-C1 (1992)

The Formation of Primordial Degenerate Protostars. *Paolo Lenzuni, David F. Chernoff, & Edwin E. Salpeter.* 393, 232, 117-A11 (1992)

CHEUNG, T. Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

CHEVALIER, ROGER A. Hydrodynamic Instabilities in Supernova Remnants: Self-similar Driven Waves. *Roger A. Chevalier, John M. Blondin, & Robert T. Emmering.* 392, 118, 102-D9 (1992)

Early Expansion and Luminosity Evolution of Supernovae. *Roger A. Chevalier.* 394, 599, 136-G5 (1992)

Pulsar Nebulae in Supernovae. *Roger A. Chevalier & Claes Fransson.* 395, 540, 149-E3 (1992)

Linear Stability Analysis of Spherical Accretion Flows onto Compact Objects. *John C. Houck & Roger A. Chevalier.* 395, 592, 150-D1 (1992)

The Galactic Center Wind. *Roger A. Chevalier.* 397, L39, 173-E12 (1992)

CHEVRETON, M. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

CHIA, T. T. Oscillations and Collapse of Compressible Homogeneous Rotating Spheroids with Electron Degeneracy. *T. T. Chia & S. Y. Pung.* 398, 574, 191-C7 (1992)

CHIANG, J. See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

CHIANG, JAMES. Gamma Radiation from Pulsar Magnetospheric Gaps. *James Chiang & Roger W. Romani.* 400, 629, 218-C1 (1992)

CHIAPPETTI, L. See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477).

CHIAVASSA, A. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

CHIEFFI, ALESSANDRO. The Evolution through H and He Burning of Galactic Cluster Stars. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 78, 517, 9-G11 (1992)

CHIÈZE, J.-P. The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

CHILDRESS, STEPHEN. Equilibrium of a Magnetic Flux Tube in a Compressible Flow. *Richard Kerswell & Stephen Childress.* 385, 746, 22-D1 (1992)

CHIN, CHAO-WEN. Stellar Evolution in Blue Populous Clusters of the Small Magellanic Cloud and the Problems of Envelope Semiconvection and Convective Core Overshooting. *Richard B. Stothers & Chao-wen Chin.* 390, 136, 75-F6 (1992)

Criterion for Convection in an Inhomogeneous Star. *Richard B. Stothers & Chao-wen Chin.* 390, L33, 78-E9 (1992)

CHIOSI, C. On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)

Setting the Clock of Stellar Models. *G. Bertelli, A. Bressan, & C. Chiosi.* 392, 522, 108-F13 (1992)

CHIOSI, CESARE. The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)

CHIUDERI, CLAUDIO. Nonresonant Resistive Dissipation of Compressible Magnetohydrodynamic Waves. *Francesco Califano, Claudio Chiuderi, & Giorgio Einaudi.* 390, 560, 82-C8 (1992)

Incompressible Disturbances in Nonuniform Media: Formation of Small Scales. *Francesco Malara, Pierluigi Veltri, Claudio Chiuderi, & Giorgio Einaudi.* 396, 297, 158-F13 (1992)

CHIUEH, TZIHONG. The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

Electromagnetically Driven Relativistic Jets: A Class of Self-similar Solutions. *Zhi-Yun Li, Tzihong Chiueh, & Mitchell C. Begelman.* 394, 459, 135-B1 (1992)

CHODOROWSKI, MICHAL J. Reaction Rate and Energy-Loss Rate for Photopair Production by Relativistic Nuclei. *Michał J. Chodorowski, Andrzej A. Zdziarski, & Marek Sikora.* 400, 181, 211-B9 (1992)

CHOKSHI, ARATI. The Clustering of Radio Galaxies. *Neta A. Bahcall & Arati Chokshi.* 385, L33, 23-B1 (1992)

QSO Absorbers: Evidence for a Primeval Galaxy Population. *Arati Chokshi.* 395, 21, 140-D5 (1992)

CHOPRA, NAMRATA. Photodissociation in Strong Magnetic Fields and Application to Pulsars. *V. B. Bhatia, Namrata Chopra, & N. Panchapakesan.* 388, 131, 50-F1 (1992)

CHOU, D.-Y. Power Spectra of Median- and Small-Scale Solar Convection. *D.-Y. Chou, C.-S. Chen, K.-T. Ou, & C.-C. Wang.* 396, 333, 159-B11 (1992)

CHRISTENSEN, J. A. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

CHRISTENSEN-DALSGAARD, J. Solar Models with Enhanced Energy Transport in the Core. *J. Christensen-Dalsgaard.* 385, 354, 16-C3 (1992)

The Resolving Power of Current Helioseismic Inversions for the Sun's Internal Rotation. *J. Schou, J. Christensen-Dalsgaard, & M. J. Thompson.* 385, L59, 23-E1 (1992)

The Influence of a Vertical Magnetic Field on Oscillations in an Isothermal Stratified Atmosphere. *S. S. Hasan & J. Christensen-Dalsgaard.* 396, 311, 159-A1 (1992)

CHRISTODOULOU, DIMITRIS M. The Stability of Accretion Tori. IV. Fission and Fragmentation of Slender, Self-gravitating Annuli. *Dimitris M. Christodoulou & Ramesh Narayan.* 388, 451, 56-A1 (1992)

Dynamical Evolution of Highly Inclined Rings. *Dimitris M. Christodoulou, Neal Katz, Hans-Walter Rix, & Asao Habe.* 395, 113, 141-E1 (1992)

CHRISTON, S. P. Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE. R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

CHRISTOV, V. V. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

CHUANG, K. W. The Spatial Distribution of Gamma-Ray Bursts from *Pioneer Venus Orbiter. K. W. Chuang, R. S. White, R. W. Klebesadel, & J. G. Laros.* 391, 242, 89-A4 (1992)

CHULKOV, I. See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

CHURAZOV, E. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

CHURCHWELL, E. The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

CIARDULLO, ROBIN. Planetary Nebulae as Standard Candles. VIII. Evidence for a Change in the Luminosity Function Cutoff at Low Metallicity. *Robin Ciardullo & George H. Jacoby.* 388, 268, 53-F1 (1992)

CINI, G. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

CIOFFI, DENIS F. The Evolution of Cocoons Surrounding Light, Extragalactic Jets. *Denis F. Cioffi & John M. Blondin.* 392, 458, 108-A7 (1992)

CLAMPIN, MARK. Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

CLAPP, A. C. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

CLARET, A. See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

CLARK, GEORGE W. The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

CLARKE, DAVID A. Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)

VLA Observations of the Inner Lobes of Centaurus A. *David A. Clarke, Jack O. Burns, & Michael L. Norman.* 395, 444, 147-G7 (1992)

Nonlinear Dynamics of a Three-dimensional Jet. *Philip E. Hardee & David A. Clarke.* 400, L9, 214-B6 (1992)

CLAVEL, J. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548. *J. Clavel, K. Nandra, F. Makino, K. A. Pounds, G. A. Reichert, C. M. Urry, W. Wamsteker, M. Peracaula-Bosch, G. C. Stewart, & C. Otani.* 393, 113, 115-E1 (1992)

CLAVER, C. F. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

CLAY, R. W. Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

CLAYTON, D. D. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

CLAYTON, DONALD D. SiC Particles from Asymptotic Giant Branch Stars: Mg Burning and the *s*-Process. *Lawrence E. Brown & Donald D. Clayton.* 392, L79, 113-E1 (1992)

The ^{57} Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

CLAYTON, G. C. See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

CLAYTON, GEOFFREY C. The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)

The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet. *Geoffrey C. Clayton, Christopher M. Anderson, Antonio Mario Magalhães, Arthur D. Code, Kenneth H. Nordsieck, Marilyn R. Meade, Michael J. Wolff, Brian Babler, Karen S. Bjorkman, Regina E. Schulte-Ladbeck, MaryJane Taylor, & Barbara A. Whitney.* 385, L53, 23-D7 (1992)

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

CLEGG, ANDREW W. Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

CLEGG, R. E. S. Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. F. S. Clegg.* 384, 385, 5-F7 (1992)

CLEMENS, DAN P. Discovery of Outflows from Young Stellar Objects in Bok Globules. *João Lin Yun & Dan P. Clemens.* 385, L21, 17-C6 (1992)

CLEMENS, J. C. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations. *J. C. Clemens, R. E. Nather, D. E. Winget, E. L. Robinson, M. A. Wood, C. F. Claver, J. Provencal, S. J. Kleinman, P. A. Bradley, M. L. Frueh, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, D. T. Wickramasinghe, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, M. A. Barstow,*

A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, & C. J. Hansen. 391, 773, 97-E8 (1992)

CLEMENT, CHRISTINE M. An RR Lyrae Period Shift in Terms of the Fourier Parameter ϕ_{31}. *Christine M. Clement, Michael Jankulak, & Norman R. Simon.* 395, 192, 142-E9 (1992)

CLEMENTINI, G. On the Absolute Magnitude of RR Lyrae Stars: UU Ceti, RV Phoenicis, and W Tucanae. *C. Cacciari, G. Clementini, & J. A. Fernley.* 396, 219, 157-G5 (1992)

CLEMENTS, S. D. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

CLINE, DAVID B. Possibility of Unique Detection of Primordial Black Hole Gamma-Ray Bursts. *David B. Cline & Woopyo Hong.* 401, L57, 232-F3 (1992)

CLINE, T. L. Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

CLINE, THOMAS L. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

CLIVER, E. W. Composition and Azimuthal Spread of Solar Energetic Particles from Impulsive and Gradual Flares. *M.-B. Kallenrode, E. W. Cliver, & G. Wibberenz.* 391, 370, 90-D12 (1992)

CLIVER, EDWARD W. Superevents: Their Origin and Propagation through the Heliosphere from 0.3 to 35 AU. *Wolfgang Dröge, Reinhold Müller-Mellin, & Edward W. Cliver.* 387, L97, 48-E10 (1992)

CLOCCHIATTI, ALEJANDRO. Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

COCCHI, M. Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)

Hard X-Ray Observation of Scorpius X-1: Erratum. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 396, 378, 159-G3 (1992) (Orig. paper in 386, 710, 34-B4 (1992))

COCHRAN, ANITA L. Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

COCHRAN, WILLIAM D. Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

An Examination of the $m = 1$ Instability in a Low-Mass Protoplanetary Disk. *Hyerim Noh, Ethan T. Vishniac, & William D. Cochran.* 397, 347, 172-B11 (1992)

COCKE, W. J. Statistical Methods for Investigating Periodicities in Double-Galaxy Redshifts. *W. J. Cocke.* 393, 59, 114-G1 (1992)

CODE, A. D. See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

CODE, ARTHUR D. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

COHEN, J. G. The Baade-Wesselink Method Applied to RR Lyrae Variables in the Globular Clusters M5 and M92. *J. G. Cohen.* 400, 528, 216-G11 (1992)

COHEN, MARSHALL H. The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

COHEN, MARTIN. A Model of the 8–25 Micron Point Source Infrared Sky. *Richard J. Wainscoat, Martin Cohen, Kevin Volk, Helen J. Walker, & Deborah E. Schwartz.* 83, 111, 58-D11 (1992)

COHEN, ROSS D. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

COHN, HALDAN N. Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)

COLAFRANCESCO, S. Merging in Cosmic Structures. *A. Cavaliere, S. Colafrancesco, & N. Menci.* 392, 41, 101-E1 (1992)

COLANGELI, L. Temperature Dependence of Infrared Bands Produced by Polycyclic Aromatic Hydrocarbons. *L. Colangeli, V. Mennella, & E. Bussoletti.* 385, 577, 20-C10 (1992)

Thermal Emission Spectra from Polycyclic Aromatic Hydrocarbon Molecules of Astrophysical Interest. *V. Mennella, L. Colangeli, & E. Bussoletti.* 391, L45, 92-D1 (1992)

Vacuum Ultraviolet Extinction Measurements on Cosmic Dust Analog Carbon Grains. *L. Colangeli, A. Blanco, S. Fonti, & E. Bussoletti.* 392, 284, 104-E1 (1992)

Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

COLAVITA, M. MARK. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

COLE, SHAUN. The Faint Galaxy Contribution to the Diffuse Extragalactic Background Light. *Shaun Cole, Marie-Agnes Treyer, & Joseph Silk.* 385, 9, 12-B10 (1992)

COLEMAN, PAUL. Submillimeter Observations of Radio-quiet Quasars and a Luminous Seyfert 1 Galaxy Including the First Detections. *Richard Barvainis, Robert Antonucci, & Paul Coleman.* 399, L19, 200-B1 (1992)

COLGATE, STIRLING. Postcollapse Hydrodynamics of SN 1987A: Two-dimensional Simulations of the Early Evolution. *Marc Herant, Willy Benz, & Stirling Colgate.* 395, 642, 151-B13 (1992)

COLINA, L. IC 5063: A Merger Remnant with a Hidden Luminous Active Nucleus: Erratum. *L. Colina, W. B. Sparks, & F. Macchetto.* 385, 766, 22-E13 (1992) (Orig. paper in 370, 102, 48-C5 (1991))

COLINA, LUIS. The Ionizing Radiation Field of NGC 4388 and Its Relation to the Extranuclear Emission-Line Regions. *Luis Colina.* 386, 59, 24-G5 (1992)

COLLIER CAMERON, ANDREW. Photometric Imaging of VW Cephei. *Paul D. Hendry, Stefan W. Mochnacki, & Andrew Collier Cameron.* 399, 246, 198-C8 (1992)

COLLINS, CHRIS A. The Distribution of Rich Clusters of Galaxies in the South Galactic Pole Region. *Luigi Guzzo, Chris A. Collins, Robert C. Nichol, & Stuart L. Lumsden.* 393, L5, 120-B1 (1992)

COLLINS, GEORGE W., II. Physical Properties of Be Star Envelopes from Balmer and Fe II Emission Lines. *Arne Slettebak, George W. Collins II, & Ryland Truax.* 81, 335, 39-D13 (1992)

COLLINS, NICHOLAS R. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

COLLINS, WILLIAM. The Theory of Magnetohydrodynamic Wave Generation by Localized Sources. III. Efficiency of Plasma Heating by Dissipation of Far-Field Waves. *William Collins.* 384, 319, 5-A1 (1992)

COLLISON, ALAN J. 1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras. *Alan J. Collison & John D. Fix.* 390, 191, 76-C13 (1992)

COLOMBI, S. Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

COLPI, M. Rotational Properties of Strange Stars. *M. Colpi & J. C. Miller.* 388, 513, 56-F1 (1992)

COLUCCI, D. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

COMASTRI, ANDREA. *EXOSAT* X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

COMTE, R. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

CONARD, STEVEN J. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

CONGER, SARAH. Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

CONLON, E. S. C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)

Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)

Hot Post–Asymptotic Giant Branch Stars at High Galactic Latitudes. *R. J. H. McCausland, E. S. Conlon, P. L. Dufton, & F. P. Keenan.* 394, 298, 131-F5 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

CONNER, SAMUEL R. Reconciling the Image Brightness Ratios in the Gravitational Lens System 0957+561. *Samuel R. Conner, Joseph Lehár, & Bernard F. Burke.* 387, L61, 48-B7 (1992)

CONTENT, R. Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

CONTI, PETER S. Detection of WC9 Stars in NCG 1365. *Andrew C. Phillips & Peter S. Conti.* 395, L91, 154-A6 (1992)

Optical Spectrophotometry of Wolf-Rayet Galaxies. *William D. Vacca & Peter S. Conti.* 401, 543, 229-D1 (1992)

CONTINI, MARCELLA. Infrared Lines from Active Galactic Nuclei: A Theoretical Approach. *Marcella Contini & Sueli M. Viegas.* 401, 481, 228-F3 (1992)

CONTOPOULOS, G. A Rotating Stäckel Potential. *G. Contopoulos & Peter O. Vandervoort.* 389, 118, 61-E1 (1992)

CONWAY, J. E. The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

COOK, GREGORY B. Spin-up of a Rapidly Rotating Star by Angular Momentum Loss: Effects of General Relativity. *Gregory B. Cook, Stuart L. Shapiro, & Saul A. Teukolsky.* 398, 203, 184-D1 (1992)

COOK, J. W. Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)

The Sun as a Star: High Spectral Resolution Solar Data Degraded to Low-Dispersion *IUE* Resolution. *J. G. Doyle & J. W. Cook.* 391, 393, 90-G1 (1992)

COOK, TIMOTHY A. The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

COOKSY, A. L. The Rotational Spectrum of the Carbon Chain Radical HCCCO. *A. L. Cooksy, J. K. G. Watson, C. A. Gottlieb, & P. Thaddeus.* 386, L27, 29-D7 (1992)

COOPER, MICHAEL A. Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

Spatial Stability of the Magnetized Slab Jet. *Philip E. Hardee, Michael A. Cooper, Michael L. Norman, & James M. Stone.* 399, 478, 203-G11 (1992)

COOPERSTEIN, J. Flux-limited Diffusion in Hydrodynamics. *J. Cooperstein & E. Baron.* 398, 531, 190-F11 (1992)

COOPERSTOCK, FRED I. A Cosmological Field Theory. *Steven P. Starkovich & Fred I. Cooperstock.* 398, 1, 182-B1 (1992)

COPLAN, M. A. Electron Energy Loss Spectra of Polycyclic Aromatic Hydrocarbon *John W. Keller, M. A. Coplan, & R. Goruganthu.* 391, 872, 98-G (1992)

COPPI, B. Coronal Loops: Current-based Heating Processes. *P. Beaufumé, B. Coppi, & L. Golub.* 393, 396, 119-A11 (1992)

COPPI, PAOLO S. Nonthermal Electron-Positron Pairs and the Break in the Hard X-Ray Spectrum of NGC 4151. *Paolo S. Coppi & Andrzej A. Zdziarski.* 398, L37, 187-F1 (1992)

CORBET, R. H. D. *Ginga* Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

CORBET, ROBIN H. D. *Ginga* Observations of the Dipping Low-Mass X-Ray Binaries XB 1916−053 and EXO 0748−676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)

CORBIN, MICHAEL R. Comparisons of the Emission-Line Properties of Radio-loud and Radio-quiet QSOs at High Redshift. *Michael R. Corbin.* 391, 577, 95-B5 (1992)

CORCIULO, G. Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

CORCORAN, M. F. Properties of the Massive X-Ray Binary 4U 1700−37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)

CORDES, J. M. Determining the Coherence of Micropulses. *T. E. Strohmayer, J. M. Cordes, & H. M. Van Horn.* 389, 685, 69-G12 (1992)

CORDES, JAMES M. Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

Interstellar Scattering toward the Galactic Center as Probed by OH/IR Stars. *Huib Jan van Langevelde, Dale A. Frail, James M. Cordes, & Philip J. Diamond.* 396, 686, 165-G9 (1992)

Spectroscopy of the Companion and Bow-Shock Nebula of PSR 1957+20. *Thomas L. Aldcroft, Roger W. Romani, & James M. Cordes.* 400, 638, 218-C13 (1992)

CORDIER, B. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

CORDONNIER, M. Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

CÓRDOVA, F. A. Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

CORNELL, MARK E. A New Library of Stellar Optical Spectra. *David R. Silva & Mark E. Cornell.* 81, 865, 48-A9 (1992)

CORNETT, ROBERT H. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

Ultraviolet Imaging Telescope Observations of the Cygnus Loop. *Robert H. Cornett, Edward B. Jenkins, Ralph C. Bohlin, Kwang-Ping Cheng, Theodore R. Gull, Robert W. O'Connell, Robert A. R. Parker, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L9, 144-D7 (1992)

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

CORONITI, F. V. Swinging Spiral Waves and Alfvén Turbulence in Accretion Disks. *M. Tagger, R. Pellat, & F. V. Coroniti.* 393, 708, 124-F1 (1992)

COSTA, E. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

COSTA, J. M. First Orbits for the Visual Double Stars WDS 00516N2238, WDS 17366N0722, WDS 17563N0259, and WDS 23020N4800. *J. A. Docobo & J. M. Costa.* 82, 323, 53-G7 (1992)

COTTINGHAM, D. A. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

Limits on Gaussian Fluctuations in the Cosmic Microwave Background at 19.2 GHz. *S. P. Boughn, E. S. Cheng, D. A. Cottingham, & D. J. Fixsen.* 391, L49, 99-C1 (1992)

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

COUCHMAN, H. M. P. Large-Scale Structure in a Low-Bias Universe. *H. M. P. Couchman & R. G. Carlberg.* 389, 453, 67-B6 (1992)

The Scaling Analysis as a Tool to Compare *N*-Body Simulations with Observations: Application to a Low-Bias Cold Dark Matter Model. *G. Yepes, R. Domínguez-Tenreiro, & H. M. P. Couchman.* 401, 40, 221-E3 (1992)

COVAULT, C. E. Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339–4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)

COWAN, J. J. Evolution of Heavy-Element Abundances as a Constraint on Sites for Neutron-Capture Nucleosynthesis. *G. J. Mathews, G. Bazan, & J. J. Cowan.* 391, 719, 97-A1 (1992)

COWAN, JOHN J. Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

COX, ARTHUR N. On the Sensitivity of High-Degree *p*-Mode Frequencies to the Solar Convection Zone Helium Abundance. *Joyce A. Guzik & Arthur N. Cox.* 386, 729, 34-D1 (1992)

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

COX, D. P. Heating the Warm Ionized Medium. *R. J. Reynolds & D. P. Cox.* 400, L33, 214-D10 (1992)

COX, DONALD P. Completing the Evolution of Supernova Remnants and Their Bubbles. *Jonathan D. Slavin & Donald P. Cox.* 392, 131, 102-E9 (1992)

Two-Temperature Models of Old Supernova Remnants with Ion and Electron Thermal Conduction. *Wei Cui & Donald P. Cox.* 401, 206, 223-F1 (1992)

COX, P. CO in the Cometary Globules of the Helix Nebula. *P. J. Huggins, R. Bachiller, P. Cox, & T. Forveille.* 401, L43, 227-F7 (1992)

COYNE, JOAN M. The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

CRAIG, I. J. D. Fast Dynamic Reconnection at X-Type Neutral Points. *I. J. D. Craig & P. G. Watson.* 393, 385, 118-G11 (1992)

CRAIG, IAN J. D. Magnetic Reconnection in Incompressible Fluids. *Edward E. DeLuca & Ian J. D. Craig.* 390, 679, 83-F7 (1992)

CRAM, L. E. On the Amplification of Large-Scale Magnetic Fields in Spiral Galaxies by Galactic Winds. *S. J. Spencer & L. E. Cram.* 400, 484, 216-C12 (1992)

CRAM, LAWRENCE. Evolutionary Models and the *p*-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

CRAMPTON, DAVID. HRCam Survey for Closely Spaced Gravitational Lenses. *David Crampton, Robert D. McClure, & J. Murray Fletcher.* 392, 23, 101-C10 (1992)

CRANE, P. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

CRANE, PATRICK C. Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

CRANE, PHILIPPE. CN Rotational Excitation. *E. Palazzi, N. Mandolesi, & Philippe Crane.* 398, 53, 182-F5 (1992)

CRAWFORD, C. S. On the Uncertainties in the Properties of Quasar Host Galaxies. *R. G. Abraham, C. S. Crawford, & I. M. McHardy.* 401, 474, 228-E9 (1992)

CREMONESI, O. On the 440 keV Line in the Crab Nebula Pulsar. *W. Bednarek, O. Cremonesi, & A. Treves.* 390, 489, 81-D5 (1992)

CRÉZÉ, MICHEL. The Edge of the Galactic Disk. *Annie C. Robin, Michel Crézé, & Vijay Mohan.* 400, L25, 214-D1 (1992)

CRIFO, J. F. Cometary Gas-Phase Chemistry Taking into Account Homogeneous and Ion-induced Water Recondensation. *J. F. Crifo.* 391, 336, 90-B1 (1992)

CRISTIANI, S. Time Series Analysis in Astronomy: An Application to Quasar Variability Studies. *R. Vio, S. Cristiani, O. Lessi, & A. Provenzale.* 391, 518, 94-D5 (1992)

CRISTIANI, STEFANO. A Direct Measure of the Gunn-Peterson Effect at $z = 3$: Limits on the Baryon Density of the Intergalactic Medium at High Redshifts. *Emanuele Giallongo, Stefano Cristiani, & Dario Trevese.* 398, L9, 187-B7 (1992)

The Evolution of Quasar Clustering. *Paola Andreani & Stefano Cristiani.* 398, L13, 187-C1 (1992)

CRITTENDEN, ROBERT G. New Constraints and Improvements on Oscillating Physics. *Robert G. Crittenden & Paul J. Steinhardt.* 395, 360, 146-F9 (1992)

CRONE, MARY M. Previrialization. *August E. Evrard & Mary M. Crone.* 394, L1, 133-A7 (1992)

CROTTS, ARLIN P. S. Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

M31: A Unique Laboratory for Gravitational Microlensing. *Arlin P. S. Crotts.* 399, L43, 200-D11 (1992)

CROWE, R. A. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

CRUTCHER, R. Zeeman Measurements of the Magnetic Fields at the Galactic Center. *N. E. B. Killeen, K. Y. Lo, & R. Crutcher.* 385, 585, 20-D6 (1992)

CRUTCHER, RICHARD M. Orion B (NGC 2024). III. BIMA SO $J_K = 2_2 \rightarrow 1_1$ Observations: Evidence for Peculiar Sulfur Chemistry. *Peter J. Barnes & Richard M. Crutcher.* 389, 325, 64-A5 (1992)

CUI, WEI. Two-Temperature Models of Old Supernova Remnants with Ion and Electron Thermal Conduction. *Wei Cui & Donald P. Cox.* 401, 206, 223-F1 (1992)

CUMMINGS, F. W. Dynamical Model of the Magnetic Field of Neutron Stars. *F. W. Cummings, D. D. Dixon, & P. E. Kaus.* 386, 215, 26-G3 (1992)

CUNHA, KATIA. Chemical Evolution of the Orion Association. I. The Oxygen Abundance of Main-Sequence B Stars. *Katia Cunha & David L. Lambert.* 399, 586, 205-B7 (1992)

CURIEL, S. The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

CURIEL, SALVADOR. On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

CURIR, ANNA. Inhomogeneous Cosmologies with Shock Waves. *Anna Curir, Mauro Francaviglia, & Enric Verdaguer.* 397, 390, 175-E3 (1992)

CUSUMANO, G. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment. *G. Cusumano, T. Mineo, B. Sacco,*

L. Scarsi, G. Gerardi, B. Agrinier, E. Barouch, R. Comte, B. Parlier, J. L. Masnou, E. Massaro, G. Matt, E. Costa, M. Salvati, P. Mandrou, M. Niel, & J. F. Olive. 398, L103, 194-E1 (1992)

EXOSAT Observations of the X-Ray Binary Pulsar 4U 1538–52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

CUTLER, CURT. Post-Newtonian Frequencies for the Pulsations of Rapidly Rotating Neutron Stars. *Curt Cutler & Lee Lindblom.* 385, 630, 21-A1 (1992)

Tidal Interactions of Inspiraling Compact Binaries. *Lars Bildsten & Curt Cutler.* 400, 175, 211-B1 (1992)

DA COSTA, G. S. The Age of the Small Magellanic Cloud Cluster Lindsay 11. *J. R. Mould, J. B. Jensen, & G. S. Da Costa.* 82, 489, 55-E11 (1992)

DA COSTA, L. N. The Large-Scale Galaxy Distribution in the Southern Sky Redshift Survey. *S. Maurogordato, R. Schaeffer, & L. N. da Costa.* 390, 17, 74-C7 (1992)

DA COSTA, L. NICOLACI. The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)

Large-Scale Structure in the Southern Sky Redshift Survey. *Changbom Park, J. Richard Gott III, & L. Nicolaci da Costa.* 392, L51, 113-B6 (1992)

DA COSTA, LUIZ NICOLACI. Void Probability Function in the Southern Sky Redshift Survey. *Marc Lachièze-Rey, Luiz Nicolaci da Costa, & Sophie Maurogordato.* 399, 10, 195-B13 (1992)

DADHICH, NARESH. Cylindrical Universes with Heat and Null Radiation Flow. *L. K. Patel & Naresh Dadhich.* 401, 433, 228-B1 (1992)

DAL FIUME, D. *EXOSAT* Observations of the X-Ray Binary Pulsar 4U 1538–52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

DALGARNO, A. Carbon Monoxide in SN 1987A. *Weihong Liu, A. Dalgarno, & S. Lepp.* 396, 679, 165-G1 (1992)

DALTON, G. B. Spatial Correlations in a Redshift Survey of APM Galaxy Clusters. *G. B. Dalton, G. Efstathiou, S. J. Maddox, & W. J. Sutherland.* 390, L1, 78-A8 (1992)

DALY, RUTH A. Inverse Compton Scattering and the Alignments Observed in High-Redshift Radio Galaxies. *Ruth A. Daly.* 386, L9, 29-B9 (1992)

Dark Matter and Brown Dwarfs: Prospects for the Direct Detection of a Brown Dwarf Halo. *Ruth A. Daly & Gail C. McLaughlin.* 390, 423, 80-F1 (1992)

Morphological Peculiarities of High-Redshift Radio Galaxies: The Role of Relativistic Electrons. *Ruth A. Daly.* 399, 426, 203-C9 (1992)

DAMAS, M. C. A Three-dimensional Axisymmetric Photochemical Flow Model of the Cometary "Inner" Shock Layer. *M. C. Damas & D. A. Mendis.* 396, 704, 166-B1 (1992)

D'AMICO, N. PSR 1259–63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

PSR J1341–6220: A Young Pulsar in a Supernova Remnant. *Victoria M. Kaspi, R. N. Manchester, Simon Johnston, A. G. Lyne, & N. D'Amico.* 399, L155, 208-D5 (1992)

DANCHI, W. C. Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

Submillimeter Line Observations of the Proto–Planetary Nebula CRL 2688. *P. A. Jaminet, W. C. Danchi, Göran Sandell, & E. C. Sutton.* 400, 535, 217-A7 (1992)

DANESE, L. A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

DANLY, LAURA. Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)

DANZIGER, I. J. Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

DAR, ARNON. Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)

DAS, MOUSUMI. Starbursts Triggered by Central Overpressure in Interacting Galaxies. *Chanda J. Jog & Mousumi Das.* 400, 476, 216-C1 (1992)

DAS GUPTA, PATRICK. Statistical Tests of Peaks and Periodicities in the Observed Redshift Distribution of Quasi-stellar Objects. *Debiprosad Duari, Patrick Das Gupta, & Jayant V. Narlikar.* 384, 35, 1-D9 (1992)

DAVID, L. P. X-Ray Properties of Bright Far-Infrared Galaxies. *L. P. David, C. Jones, & W. Forman.* 388, 82, 50-B4 (1992)

DAVID, LAURENCE P. The Efficiency of Galaxy Formation in Clusters. *Laurence P. David & George R. Blumenthal.* 389, 510, 67-G1 (1992)

Semiempirical Limits on the Thermal Conductivity of Intracluster Gas. *Laurence P. David, John P. Hughes, & Wallace H. Tucker.* 394, 452, 135-A7 (1992)

DAVID, M. Spherically Symmetric, Polytropic Flow. *T. Theuns & M. David.* 384, 587, 9-D9 (1992)

DAVIDGE, T. J. Asymptotic Giant Branch Stars in the Central Regions of M32. *T. J. Davidge & J.-L. Nieto.* 391, L13, 92-A1 (1992)

Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J. Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes.* 81, 251, 38-D5 (1992)

The Distribution and Age of Asymptotic Giant Branch Stars in NGC 205. *T. J. Davidge.* 397, 457, 176-D5 (1992)

DAVIDSEN, A. F. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

DAVIDSEN, ARTHUR F. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission. *Arthur F. Davidsen, Knox S. Long, Samuel T. Durrance, William P. Blair, Charles W. Bowers, Steven J. Conard, Paul D. Feldman, Henry C. Ferguson, Glen H. Fountain, Randy A. Kimble, Gerard A. Kriss, H. Warren Moos, & Kenneth A. Potocki.* 392, 264, 104-C1 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068: Erratum. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 397, L127, 181-F12 (1992) (Orig. paper in 394, L37, 139-B7 (1992))

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

DAVIDSON, J. A. The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

DAVIES, M. B. Stellar Encounters Involving Neutron Stars in Globular Cluster Cores. *M. B. Davies, W. Benz, & J. G. Hills.* 401, 246, 224-B1 (1992)

DAVILA, JOSEPH M. A Rotating Tomographic Imager for Solar Extreme-Ultraviolet/Soft X-Ray Emission. *Joseph M. Davila & W. T. Thompson.* 389, L91, 73-F8 (1992)

DAVIS, MARC. A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

The Density Evolution of *IRAS* Galaxies. *Karl B. Fisher, Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 389, 188, 62-C11 (1992)

A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)

A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

DAWSON, B. R. Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

DAY, C. S. R. *Ginga* Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

DE AMICI, G. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

DEARBORN, DAVID S. P. Mass Loss and a Possible Population II Lithium Dip. *David S. P. Dearborn, David N. Schramm, & L. M. Hobbs.* 394, L61, 139-E1 (1992)

DE BERNARDIS, P. On the Origin of the Dipole Anisotropy as Determined by Quadrupole Measurements. *S. Bottani, P. de Bernardis, & F. Melchiorri.* 384, L1, 6-A9 (1992)

Testing the Isotropy of the Cosmic Microwave Background: The ULISSE Experiment. *P. de Bernardis, S. Masi, F. Melchiorri, B. Melchiorri, & N. Vittorio.* 396, L57, 166-G1 (1992)

DE BOISANGER, C. BRÉART. The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

DEBRUNNER, H. The Solar Flare Event on 1990 May 24: Evidence for Two Separate Particle Accelerations. *H. Debrunner, J. A. Lockwood, & J. M. Ryan.* 387, L51, 43-F7 (1992)

DE BRUYN, A. G. Riddle and Puzzle of the Optical Region S122 = 2306+1439. *J. P. Vallée & A. G. de Bruyn.* 393, 674, 124-B10 (1992)

DE CARVALHO, R. R. Systematic Differences between the Field and Cluster Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 389, L49, 73-B11 (1992)

DE DIEGO, J. A. Intermediate-Resolution Spectropolarimetry of 3C 273. *J. A. de Diego, E. Pérez, M. R. Kidger, & L. O. Takalo.* 396, L19, 160-D10 (1992)

DEENEY, BRYAN D. VLBI Survey of ρ Ophiuchi: A Population of Magnetized, Diskless Young Stellar Objects. *Philippe André, Bryan D. Deeney, Robert B. Phillips, & Jean-François Lestrade.* 401, 667, 230-G1 (1992)

DE FELICE, FERNANDO. Angular Momentum and Black Hole Formation in Stellar Systems: A Statistical Approach. *Fernando de Felice, Yunqiang Yu, & Guorong Zhou.* 384, 560, 9-B5 (1992)

Rotating Stars: The Angular Momentum Constraints. *Fernando de Felice & Leonardo Di G. Sigalotti.* 389, 386, 64-F7 (1992)

DEGIACOMI, C. G. Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

DEGIOIA-EASTWOOD, KATHLEEN. *IRAS* Observations and the Stellar Content of H II Regions in the Large Magellanic Cloud. *Kathleen DeGioia-Eastwood.* 397, 542, 177-F7 (1992)

DE GOUVEIA DAL PINO, E. M. The Origin of the Optical Emission Lines Associated with Extragalactic Radio Sources. *S. M. Viegas & E. M. de Gouveia Dal Pino.* 384, 467, 8-A1 (1992)

DEGUCHI, S. High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

DEHARVENG, J. M. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

DEILY, JOHN J. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

DE JAGER, O. C. TeV Gamma Rays from 3C 279: A Possible Probe of Origin and Intergalactic Infrared Radiation Fields. *F. W. Stecker, O. C. De Jager, & M. H. Salamon.* 390, L49, 84-D7 (1992)

The Expected High-Energy to Ultra–High-Energy Gamma-Ray Spectrum of the Crab Nebula. *O. C. De Jager & A. K. Harding.* 396, 161, 157-B6 (1992)

Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

DE JAGER, O. C. AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

DE JONGE, JOOST KIEWIET. MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

DEJONGHE, HERWIG. Inferring the Mass of Spherical Stellar Systems from Velocity Moments. *Herwig Dejonghe & David Merritt.* 391, 531, 94-E6 (1992)

DEKANY, R. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

DEKEL, AVISHAI. Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

DE LA BEAUJARDIÈRE, J.-F. Coordinated Spectral and Temporal Hα Observations of a Solar Flare. *J.-F. de La Beaujardière, Alan L. Kiplinger, & Richard C. Canfield.* 401, 761, 232-A5 (1992)

DELGADO, ANTONIO J. Influence of the Large-Scale Star Formation Pattern on the Galactic Distribution of Wolf-Rayet Stars. *Emilio J. Alfaro, Antonio J. Delgado, & Jesús Cabrera-Caño.* 386, L47, 36-C5 (1992)

Corrugations and Star Formation Activity: The Carina-Sagittarius Arm. *Emilio J. Alfaro, Jesús Cabrera-Caño, & Antonio J. Delgado.* 399, 576, 205-A9 (1992)

DEL GRANDE, PAOLA. Cold Dark Matter versus Baryon-dominated Universes: Comparison with Peculiar Velocity and Acceleration Measurements. *Paola Del Grande & Nicola Vittorio.* 397, 26, 168-D1 (1992)

DELIYANNIS, CONSTANTINE P. Evolutionary Models of Halo Stars with Rotation. II. Effects of Metallicity on Lithium Depletion, and Possible Implications for the Primordial Lithium Abundance. *M. H. Pinsonneault, Constantine P. Deliyannis, & P. Demarque.* 78, 179, 4-B3 (1992)

Evolution of Beryllium Abundances in the Galactic Halo. *Sean G. Ryan, John E. Norris, M. S. Bessell, & Constantine P. Deliyannis.* 388, 184, 51-C6 (1992)

The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

DELLA CECA, ROBERTO. The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

DELLA VALLE, M. Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

DEL TORO INIESTA, J. C. Inversion of Stokes Profiles. *B. Ruiz Cobo & J. C. del Toro Iniesta.* 398, 375, 186-D11 (1992)

DELUCA, EDWARD E. Magnetic Reconnection in Incompressible Fluids. *Edward E. DeLuca & Ian J. D. Craig.* 390, 679, 83-F7 (1992)

DE LUCIA, FRANK C. An Extension of the High-Resolution Millimeter- and Submillimeter-Wave Spectrum of Methanol to High Angular Momentum Quantum Numbers. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 82, 405, 55-A9 (1992)

DEMARQUE, P. Evolutionary Models of Halo Stars with Rotation. II. Effects of Metallicity on Lithium Depletion, and Possible Implications for the Primordial Lithium Abundance. *M. H. Pinsonneault, Constantine P. Deliyannis, & P. Demarque.* 78, 179, 4-B3 (1992)

Standard Solar Model. *D. B. Guenther, P. Demarque, Y.-C. Kim, & M. H. Pinsonneault.* 387, 372, 41-E9 (1992)

The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

Standard Solar Model. II. *g*-Modes. *D. B. Guenther, P. Demarque, M. H. Pinsonneault, & Y.-C. Kim.* 392, 328, 105-A10 (1992)

DEMARQUE, PIERRE. The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

Evolutionary Models and the *p*-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)

DEMIAŃSKI, MAREK. On Formation of the Superlarge Structure in the Universe. *Olga E. Buryak, Marek Demiański, & Andrej G. Doroshkevich.* 393, 464, 121-F1 (1992)

DEMING, DRAKE. Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

DÉMOULIN, P. Weighted Current Sheets Supported in Normal and Inverse Configurations: A Model for Prominence Observations. *P. Démoulin & T. G. Forbes.* 387, 394, 41-G5 (1992)

DEMPSEY, ROBERT C. Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)

DEMUYNCK, C. Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

DENIS, M. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

DENISON, CRAIG S. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

DENNIS, B. R. Impulsive Phase Fe Kα Emission in a Flare of 1989 March. *D. M. Zarro, B. R. Dennis, & G. L. Slater.* 391, 865, 98-F6 (1992)

Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

DE OLIVEIRA, CLAUDIA MENDES. Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

DEPOY, D. L. The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)

Infrared Hot Spots in the Nucleus of NGC 253: Erratum. *Duncan A. Forbes, Martin J. Ward, & D. L. DePoy.* 385, L31, 17-D10 (1992) (Orig. paper in 380, L63, 188-C6 (1991))

Detection of [Fe II] Emission in the Galactic Center. *D. L. DePoy.* 398, 512, 190-E1 (1992)

DE PREE, C. G. Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

DE ROBERTIS, M. M. Lyα and C IV Narrow-Band Imaging of the Gravitational Lens 2237+030. *H. K. C. Yee & M. M. De Robertis.* 398, L21, 187-D1 (1992)

DESAI, K. M. A Speckle Hologram of the Interstellar Plasma. *K. M. Desai, C. R. Gwinn, J. Reynolds, E. A. King, D. Jauncey, C. Flanagan, G. Nicolson, R. A. Preston, & D. L. Jones.* 393, L75, 127-E7 (1992)

DESAI, U. D. Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

DE SANTIS, RENATO. The Galactic Globular Cluster System: Empirical Relationship between Light-to-Mass Ratio and Metallicity. *Filippina Caputo & Renato De Santis.* 401, 260, 224-C1 (1992)

DESTOMBES, J. L. Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

DETMAN, T. The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

D'ETTORRE PIAZZOLI, B. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

DE VAUCOULEURS, G. Mean Galaxy Luminosity Classifications. *S. C. Odewahn & G. de Vaucouleurs.* 83, 65, 57-G1 (1992)

DEVEREUX, NICHOLAS A. Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

DEWDNEY, P. E. The Development of H I Dissociation Zones around New H II Regions. *R. S. Roger & P. E. Dewdney.* 385, 536, 19-G5 (1992)

A High-Resolution 21 Centimeter Line Study of Infrared Cirrus. *G. Joncas, F. Boulanger, & P. E. Dewdney.* 397, 165, 170-A10 (1992)

DE YOUNG, DAVID S. Galaxy-driven Turbulence and the Growth of Intracluster Magnetic Fields. *David S. De Young.* 386, 464, 31-B8 (1992)

DE ZEEUW, P. T. Triaxial Galaxy Models with Thin Tube Orbits. *C. Hunter & P. T. de Zeeuw.* 389, 79, 61-B1 (1992)

The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

DE ZEEUW, TIM. Elongated Disks and the Scatter in the Tully-Fisher Relation. *Marijn Franx & Tim de Zeeuw.* 392, L47, 113-B1 (1992)

DE ZOTTI, G. A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

DIACHKOV, A. See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

DIAMOND, P. H. Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)

DIAMOND, PATRICK. Local Magnetohydrodynamic Instabilities and the Wave-driven Dynamo in Accretion Disks. *Ethan T. Vishniac & Patrick Diamond.* 398, 561, 191-B5 (1992)

DIAMOND, PHILIP J. Interstellar Scattering toward the Galactic Center as Probed by OH/IR Stars. *Huib Jan van Langevelde, Dale A. Frail, James M. Cordes, & Philip J. Diamond.* 396, 686, 165-G9 (1992)

DIAZ, M. The Discovery of a New DAV Star Using *IUE* Temperature Determination. *A. Kanaan, S. O. Kepler, O. Giovannini, & M. Diaz.* 390, L89, 85-B7 (1992)

DÍAZ ALONSO, J. Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M^a. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

DI BENEDETTO, R. Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

DICKEL, JOHN R. Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

DICKEY, JOHN M. An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor

Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

Infrared Polarimetry and the Galactic Magnetic Field. II. Improved Models. *Terry Jay Jones, Dimitri Klebe, & John M. Dickey.* 389, 602, 69-A1 (1992)

The Tully-Fisher Relation for the CO Line. *John M. Dickey & Ilya Kazès.* 393, 530, 122-D5 (1992)

DICKINSON, MARK. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

The Unusual Field of the Quasar 3C 336: Identification of Three Foreground Mg II Absorbing Galaxies. *Charles C. Steidel & Mark Dickinson.* 394, 81, 129-A13 (1992)

How Old Is the $z = 3.4$ Radio Galaxy B2 0902+34. *Peter Eisenhardt & Mark Dickinson.* 399, L47, 200-E4 (1992)

DICKMAN, R. L. Structure and Kinematics of Dense Gas Associated with the Supernova Remnant IC 443. *R. L. Dickman, Ronald L. Snell, L. M. Ziurys, & Yi-Long Huang.* 400, 203, 211-C9 (1992)

DIETRICH, M. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

DINERSTEIN, H. L. Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

DING, K. Y. Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)

DINGUS, B. L. See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

DISANTI, MICHAEL. NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

DISNEY, M. J. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

DI STEFANO, R. Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

DIXON, D. D. Dynamical Model of the Magnetic Field of Neutron Stars. *F. W. Cummings, D. D. Dixon, & P. E. Kaus.* 386, 215, 26-G3 (1992)

DIXON, W. V. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

DIXON, W. VAN DYKE. See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

DJORGOVSKI, S. Systematic Differences between the Field and Cluster Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 389, L49, 73-B11 (1992)

On the Origin of Globular Clusters in Elliptical Galaxies. *S. Djorgovski & Basilio X. Santiago.* 391, L85, 99-F13 (1992)

Identification and Spectroscopy of Radio Sources from the Third Bologna Survey. *D. J. Thompson, S. Djorgovski, M. Vigotti, & G. Grueff.* 81, 1, 35-B1 (1992)

DOBRZYCKA, DANUTA. Spectroscopic Observations of the Cataclysmic Variable PG 0917+342: An Ultra–Short-Period Nova-like System. *Danuta Dobrzycka & Steve B. Howell.* 388, 614, 57-G6 (1992)

DOCOBO, J. A. First Orbits for the Visual Double Stars WDS 00516N2238, WDS 17366N0722, WDS 17563N0259, and WDS 23020N4800. *J. A. Docobo & J. M. Costa.* 82, 323, 53-G7 (1992)

DOLAN, JOSEPH F. A Reanalysis of the Orbital Inclination of Cygnus XR-1 Determined Polarimetrically. *Joseph F. Dolan.* 384, 249, 4-A9 (1992)

DOMÍNGUEZ-TENREIRO, R. On the Dynamical Evolution of Rich Galaxy Clusters. *G. Yepes & R. Domínguez-Tenreiro.* 387, 27, 37-D1 (1992)

Limits on a Possible Violation of the Strong Equivalence Principle from Primordial Nucleosynthesis. *A. Serna & R. Domínguez-Tenreiro.* 389, 1, 60-B1 (1992)

Primordial Nucleosynthesis Bounds on the Brans-Dicke Theory. *A. Serna, R. Domínguez-Tenreiro, & G. Yepes.* 391, 433, 93-C4 (1992)

The Scaling Analysis as a Tool to Compare *N*-Body Simulations with Observations: Application to a Low-Bias Cold Dark Matter Model. *G. Yepes, R. Domínguez-Tenreiro, & H. M. P. Couchman.* 401, 40, 221-E3 (1992)

DOMINIK, KURT G. Gravitational Clustering in the Expanding Universe: Controlled High-Resolution Studies in Two Dimensions: Erratum. *John Francis Beacom, Kurt G. Dominik, Adrian L. Melott, Sam P. Perkins, & Sergei F. Shandarin.* 384, 665, 10-D1 (1992) (Orig. paper in 372, 351, 80-B7 (1991))

Percolation Analysis of Nonlinear Structures in Scale-free Two-dimensional Simulations. *Kurt G. Dominik & Sergei F. Shandarin.* 393, 450, 121-E1 (1992)

DONAHUE, MEGAN. Distant Cooling Flows. *Megan Donahue, John T. Stocke, & Isabella M. Gioia.* 385, 49, 12-E13 (1992)

DONAHUE, ROBERT A. Evidence of Differential Surface Rotation in the Solar-Type Star HD 114710. *Robert A. Donahue & Sallie L. Baliunas.* 393, L63, 127-D1 (1992)

DONE, C. An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

DONE, CHRISTINE. Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)

DOPITA, MICHAEL A. Abundances of the Heavy Elements in the Magellanic Clouds. III. Interpretation of Results. *Stephen C. Russell & Michael A. Dopita.* 384, 508, 8-D9 (1992)

A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

The Kinematics of Planetary Nebulae in the Outer Fields of the Large Magellanic Cloud. *E. Vassiliadis, Stephen J. Meatheringham, & Michael A. Dopita.* 394, 489, 135-D7 (1992)

Optical Spectroscopy of Magellanic Cloud Planetary Nebulae. III. *E. Vassiliadis, Michael A. Dopita, D. H. Morgan, & J. F. Bell.* 83, 87, 58-B1 (1992)

DORBAND, J. E. Comparing Restored *HST* and VLA Imagery of R Aquarii. *J. M. Hollis, J. E. Dorband, & F. Yusef-Zadeh.* 386, 293, 27-G3 (1992)

DORMAN, BEN. The Structure of Horizontal-Branch Models. I. The Zero-Age Horizontal Branch. *Ben Dorman.* 80, 701, 33-B5 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. III. Horizontal-Branch Sequences. *Ben Dorman.* 81, 221, 38-A3 (1992)

DOROSHKEVICH, ANDREJ G. On Formation of the Superlarge Structure in the Universe. *Olga E. Buryak, Marek Demiański, & Andrej G. Doroshkevich.* 393, 464, 121-F1 (1992)

DOSCHEK, G. A. The Potential for Plasma Diagnostics from Stellar Extreme-Ultraviolet Observations. *U. Feldman, P. Mandelbaum, J. F. Seely, G. A. Doschek, & H. Gursky.* 81, 387, 40-D3 (1992)

DOTANI, T. X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

DOTSON, J. Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

DOWDY, JAMES F., JR. Pervasive Variability in the Quiet Solar Transition Region. *Douglas Rabin & James F. Dowdy, Jr.* 398, 665, 192-D1 (1992)

Solar Doppler-Shift Measurements in the Ne VII 465 Å Emission Line. *John T. Mariska & James F. Dowdy, Jr.* 401, 754, 231-G8 (1992)

DOWNES, D. Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

DOWNES, RONALD A. *Hubble Space Telescope* FOS Observations of KPD 0005+5106: A Subluminous WN-WC Descendant with Ongoing Mass Outflow? *Edward M. Sion & Ronald A. Downes.* 396, L79, 167-B7 (1992)

DOXSEY, R. The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

DOXSEY, RODGER. See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

Hubble Space Telescope Imaging of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, Dan Maoz, Donald P. Schneider, Brian Yanny, & Rodger Doxsey.* 392, L1, 106-A7 (1992)

DOYLE, J. G. The Origin of the Far-Ultraviolet Continuum in Solar and Stellar Flares. *K. J. H. Phillips, G. E. Bromage, & J. G. Doyle.* 385, 731, 22-B11 (1992)

The Sun as a Star: High Spectral Resolution Solar Data Degraded to Low-Dispersion *IUE* Resolution. *J. G. Doyle & J. W. Cook.* 391, 393, 90-G1 (1992)

Limits on Detectability of Mass Loss from Cool Dwarfs. *D. J. Mullan, J. G. Doyle, R. O. Redman, & M. Mathioudakis.* 397, 225, 170-F12 (1992)

DOYON, RENÉ. The He I λ2.06 Microns/Brγ Ratio in Starburst Galaxies—An Objective Constraint on the Upper Mass Limit to the Initial Mass Function. *René Doyon, P. J. Puxley, & R. D. Joseph.* 397, 117, 169-D9 (1992)

DRAINE, B. T. On the H_2 Line Emission from NGC 6240 and Other Starburst Galaxies: Erratum. *B. T. Draine & D. T. Woods.* 387, 732, 47-G1 (1992) (Orig. paper in 381, 288, 192-E5 (1991))

DRAKE, J. F. Enhanced Damping of Alfvén Waves in the Solar Corona by a Turbulent Wave Spectrum. *Robert G. Kleva & J. F. Drake.* 395, 697, 152-A5 (1992)

DRAKE, JEREMY J. Sodium, Aluminum, and Oxygen Abundance Variations in Giants in the Globular Cluster M4. *Jeremy J. Drake, Verne V. Smith, & Nicholas B. Suntzeff.* 395, L95, 154-A10 (1992)

DRAKE, STEPHEN A. Radio Emission from Chemically Peculiar Stars. *Jeffrey L. Linsky, Stephen A. Drake, & T. S. Bastian.* 393, 341, 118-D1 (1992)

Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)

DRESSLER, ALAN. Spectroscopy of Galaxies in Distant Clusters. IV. A Catalog of Photometry and Spectroscopy for Galaxies in Seven Clusters with $0.35 < z < 0.55$. *Alan Dressler & James E. Gunn.* 78, 1, 1-B1 (1992)

DRILLING, JOHN S. The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

DRISSEN, LAURENT. Polarization Variability among Wolf-Rayet Stars. VII. The Single Stars WR 14, WR 25, and WR 69. *Laurent Drissen, Carmelle Robert, & Anthony F. J. Moffat.* 386, 288, 27-F11 (1992)

See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

Deposition of Mass, Momentum, and Energy by Massive Stars into the Interstellar Medium. *Claus Leitherer, Carmelle Robert, & Laurent Drissen.* 401, 596, 230-A6 (1992)

DRÖGE, WOLFGANG. Superevents: Their Origin and Propagation through the Heliosphere from 0.3 to 35 AU. *Wolfgang Dröge, Reinhold Müller-Mellin, & Edward W. Cliver.* 387, L97, 48-E10 (1992)

DRUKIER, G. A. Fokker-Planck Models and Globular Cluster Evolution: The Problem of M71. *G. A. Drukier, G. G. Fahlman, & H. B. Richer.* 386, 106, 25-D7 (1992)

DRURY, L. O'C. A Comparison of Models for Supernova Remnants Including Cosmic Rays. *Hyesung Kang & L. O'C. Drury.* 399, 182, 197-D11 (1992)

DRYER, M. The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

DUARI, DEBIPROSAD. Statistical Tests of Peaks and Periodicities in the Observed Redshift Distribution of Quasi-stellar Objects. *Debiprosad Duari, Patrick Das Gupta, & Jayant V. Narlikar.* 384, 35, 1-D9 (1992)

DUBATH, P. Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

DUBINSKI, JOHN. Cosmological Tidal Shear. *John Dubinski.* 401, 441, 228-B12 (1992)

DUFOUR, R. J. The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

DUFOUR, REGINALD J. CNO Abundances and Temperature Fluctuations in the Orion Nebula. *Donald K. Walter, Reginald J. Dufour, & J. Jeff Hester.* 397, 196, 170-D7 (1992)

Extinction and Scattering in the Orion Nebula: Comparison of Optical and VLA 21 Centimeter Studies. *C. R. O'Dell, Donald K. Walter, & Reginald J. Dufour.* 399, L67, 200-G12 (1992)

DUFTON, P. L. The Oscillator Strength of the Si II $3s^2 3p\ ^2P$–$3s3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)

Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)

Hot Post–Asymptotic Giant Branch Stars at High Galactic Latitudes. *R. J. H. McCausland, E. S. Conlon, P. L. Dufton, & F. P. Keenan.* 394, 298, 131-F5 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

DULK, G. A. Characteristics of Hard X-Ray Spectra of Impulsive Solar Flares. *G. A. Dulk, A. L. Kiplinger, & R. M. Winglee.* 389, 756, 70-F11 (1992)

DUNCAN, DOUGLAS K. The Abundance of Boron in Three Halo Stars. *Douglas K. Duncan, David L. Lambert, & Michael Lemke.* 401, 584, 229-G6 (1992)

DUNCAN, ROBERT C. Formation of Very Strongly Magnetized Neutron Stars: Implications for Gamma-Ray Bursts. *Robert C. Duncan & Christopher Thompson.* 392, L9, 106-B7 (1992)

DUNSBY, PETER K. S. Cosmological Perturbations and the Physical Meaning of Gauge-invariant Variables. *Marco Bruni, Peter K. S. Dunsby, & George F. R. Ellis.* 395, 34, 140-E7 (1992)

Covariant Perturbations in a Multifluid Cosmological Medium. *Peter K. S. Dunsby, Marco Bruni, & George F. R. Ellis.* 395, 54, 140-G1 (1992)

DUPREE, A. K. Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

DUPUIS, J. A Study of Metal Abundance Patterns in Cool White Dwarfs. I. Time-dependent Calculations of Gravitational Settling. *J. Dupuis, G. Fontaine, C. Pelletier, & F. Wesemael.* 82, 505, 56-A7 (1992)

DUQUENNOY, ANTOINE. On the Mass-Ratio Distribution of Spectroscopic Binaries with Solar-Type Primaries. *Tsevi Mazeh, Dorit*

Goldberg, Antoine Duquennoy, & Michel Mayor. 401, 265, 224-C9 (1992)

DURAND, D. The Sharpless 187 Gas Complex: A Multifrequency Study. *G. Joncas, D. Durand, & R. S. Roger.* 387, 591, 46-A9 (1992)

DURIC, NEBOJSA. New Results on the Radio–Far-Infrared Relation for Galaxies. *Rob Price & Nebojsa Duric.* 401, 81, 222-A11 (1992)

DURRANCE, S. T. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

DURRANCE, SAMUEL T. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

DUVALL, T. L., JR. Scattering of *p*-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)

DWEK, E. Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

DWEK, ELI. Line Fluorescence from the Ring around SN 1987A. *Eli Dwek & James E. Felten.* 387, 551, 45-E1 (1992)

Infrared Emission from X-Ray and Optically Emitting Regions in the Cygnus Loop Supernova Remnant. *Richard G. Arendt, Eli Dwek, & David Leisawitz.* 400, 562, 217-D1 (1992)

DYACHKOV, A. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

DYER, C. C. On the Rotation of Polarization by a Gravitational Lens. *C. C. Dyer & Eric G. Shaver.* 390, L5, 78-B1 (1992)

DYKEMA, PIETER G. A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

DYSON, J. E. Primordial Giant Molecular Cloud Clumps Can Be Probed—Optically. *David L. Block, J. E. Dyson, & Claus Madsen.* 390, L13, 78-C1 (1992)

DZIEMBOWSKI, W. A. Effects of Differential Rotation on Stellar Oscillations: A Second-Order Theory. *W. A. Dziembowski & Philip R. Goode.* 394, 670, 137-G5 (1992)

EALES, STEPHEN A. A New Theory for the Alignment Effect. *Stephen A. Eales.* 397, 49, 168-F1 (1992)

EARL, JAMES A. Effect of Magnetic Helicity upon Rectilinear Propagation of Charged Particles in Random Magnetic Fields. *James A. Earl.* 395, 185, 142-E1 (1992)

EASTMAN, RONALD G. Expanding Photospheres of Type II Supernovae and the Extragalactic Distance Scale. *Brian P. Schmidt, Robert P. Kirshner, & Ronald G. Eastman.* 395, 366, 146-G7 (1992)

EBBETS, DENNIS C. Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

EBISUZAKI, TOSHIKAZU. Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)

EDELSON, RICK. The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

A Survey of Ultraviolet Variability in Blazars. *Rick Edelson.* 401, 516, 229-B1 (1992)

EDGAR, RICHARD J. Highly Ionized Gas in the Gum Nebula and Elsewhere: A Comparison of *IUE* and *Copernicus* Satellite Results. *Richard J. Edgar & Blair D. Savage.* 396, 124, 156-F4 (1992)

EDMONDS, PETER. Evolutionary Models and the *p*-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

EDWARDS, SUZAN. Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

EFRON, BRADLEY. A Simple Test of Independence for Truncated Data with Applications to Redshift Surveys. *Bradley Efron & Vahé Petrosian.* 399, 345, 202-C1 (1992)

EFSTATHIOU, G. Spatial Correlations in a Redshift Survey of APM Galaxy Clusters. *G. B. Dalton, G. Efstathiou, S. J. Maddox, & W. J. Sutherland.* 390, L1, 78-A8 (1992)

The Stromlo–APM Redshift Survey. I. The Luminosity Function and Space Density of Galaxies. *J. Loveday, B. A. Peterson, G. Efstathiou, & S. J. Maddox.* 390, 338, 79-D5 (1992)

Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)

EGGLETON, P. P. The Structure and Evolution of Thorne-Żytkow Objects. *R. C. Cannon, P. P. Eggleton, A. N. Żytkow, & P. Podsiadlowski.* 386, 206, 26-F5 (1992)

EICHLER, DAVID. Inhibition of Electron Thermal Conduction by Electromagnetic Instabilities. *Amir Levinson & David Eichler.* 387, 212, 39-E5 (1992)

EINAUDI, G. Hydrodynamics of the Hot Component of the Galactic Halo. II. Radiative and Dynamical Instabilities. *A. Ferrara & G. Einaudi.* 395, 475, 148-D9 (1992)

EINAUDI, GIORGIO. Nonresonant Resistive Dissipation of Compressible Magnetohydrodynamic Waves. *Francesco Califano, Claudio Chiuderi, & Giorgio Einaudi.* 390, 560, 82-C8 (1992)

Incompressible Disturbances in Nonuniform Media: Formation of Small Scales. *Francesco Malara, Pierluigi Veltri, Claudio Chiuderi, & Giorgio Einaudi.* 396, 297, 158-F13 (1992)

EIROA, C. The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

EIROA, CARLOS. The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

EISENHARDT, PETER. The Lyα/Hα Ratio in High-Redshift Radio Galaxies. *Patrick J. McCarthy, Richard Elston, & Peter Eisenhardt.* 387, L29, 43-D1 (1992)

How Old Is the $z = 3.4$ Radio Galaxy B2 0902+34. *Peter Eisenhardt & Mark Dickinson.* 399, L47, 200-E4 (1992)

EKER, ZEKI. Kinematics and Age of RS Canum Venaticorum and BY Draconis Stars. *Zeki Eker.* 79, 481, 20-E9 (1992)

ELIAS, J. H. The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)

ELITZUR, MOSHE. Water Masers in W49N—The Youngest Stellar Jet? *Mordecai-Mark Mac Low & Moshe Elitzur.* 393, L33, 120-E6 (1992)

Planar H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 394, 221, 130-F10 (1992)

Modeling SiO Maser Emission from Late-Type Stars. *Philip Lockett & Moshe Elitzur.* 399, 704, 206-F9 (1992)

ELLINGSON, ERICA. Mg II Absorption by Previously Known Galaxies at $z \approx 0.5$. *Jill Bechtold & Erica Ellingson.* 396, 20, 155-C13 (1992)

ELLIS, GEORGE F. R. Cosmological Perturbations and the Physical Meaning of Gauge-invariant Variables. *Marco Bruni, Peter K. S. Dunsby, & George F. R. Ellis.* 395, 34, 140-E7 (1992)

Covariant Perturbations in a Multifluid Cosmological Medium. *Peter K. S. Dunsby, Marco Bruni, & George F. R. Ellis.* 395, 54, 140-G1 (1992)

ELLISON, DONALD C. Electron Acceleration in Tycho's and Kepler's Supernova Remnants: Spectral Evidence of Fermi Shock Acceleration. *Stephen P. Reynolds & Donald C. Ellison.* 399, L75, 201-B1 (1992)

ELMEGREEN, BRUCE G. Optical Tracers of Spiral Wave Resonances in Galaxies. II. Hidden Three-Arm Spirals in a Sample of 18 Galaxies. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Luis Montenegro.* 79, 37, 12-E9 (1992)

ELMEGREEN, DEBRA MELOY. Optical Tracers of Spiral Wave Resonances in Galaxies. II. Hidden Three-Arm Spirals in a Sample of 18 Galaxies. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Luis Montenegro.* 79, 37, 12-E9 (1992)

ELPHICK, CHRISTIAN. Dynamics of Fronts in Thermally Bistable Fluids. *Christian Elphick, Oded Regev, & Nir Shaviv.* 392, 106, 102-C9 (1992)

ELSTE, G. H. Line Shapes of Rotating Stars with Application to Alpha Lyrae. *G. H. Elste.* 384, 284, 4-D10 (1992)

ELSTON, RICHARD. The Lyα/Hα Ratio in High-Redshift Radio Galaxies. *Patrick J. McCarthy, Richard Elston, & Peter Eisenhardt.* 387, L29, 43-D1 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

ELVIS, M. An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

ELVIS, MARTIN. *EXOSAT* X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

PKS 0438–436: A High-Redshift Quasar with Strong X-Ray Absorption. *Belinda J. Wilkes, Martin Elvis, Fabrizio Fiore, Jonathan C. McDowell, Harvey Tananbaum, & Andrew Lawrence.* 393, L1, 120-A9 (1992)

EMMERING, ROBERT T. Magnetic Acceleration of Broad Emission-Line Clouds in Active Galactic Nuclei. *Robert T. Emmering, Roger D. Blandford, & Isaac Shlosman.* 385, 460, 19-A1 (1992)

Hydrodynamic Instabilities in Supernova Remnants: Self-similar Driven Waves. *Roger A. Chevalier, John M. Blondin, & Robert T. Emmering.* 392, 118, 102-D9 (1992)

EMSLIE, A. GORDON. On Neutralized Currents in the Solar Corona. *Ladye Kathryn Wilkinson, A. Gordon Emslie, & G. Allen Gary.* 392, L39, 106-E7 (1992)

Diagnostics of Electron-heated Solar Flare Models. III. Effects of Tapered Loop Geometry and Preheating. *A. Gordon Emslie, Peng Li, & John T. Mariska.* 399, 714, 206-G7 (1992)

ENCRENAZ, THÉRÈSE. Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

ENDO, YASUKI. See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

ENGARGIOLA, G. The Structure of NGC 4565 at 100, 160, and 200 Microns: Continuum Dust Emission in a Quiescent Sb Galaxy. *G. Engargiola & D. A. Harper.* 394, 104, 129-C13 (1992)

ENSMAN, LISA. Shock Breakout in SN 1987A. *Lisa Ensman & Adam Burrows.* 393, 742, 125-A10 (1992)

EPSTEIN, RICHARD I. Vortex Drag and the Spin-up Time Scale for Pulsar Glitches. *Richard I. Epstein & Gordon Baym.* 387, 276, 40-D1 (1992)

Postglitch Behavior of the Crab Pulsar: Evidence for External Torque Variations. *Bennett Link, Richard I. Epstein, & Gordon Baym.* 390, L21, 78-D5 (1992)

ERICKSON, E. F. Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

ERIGUCHI, Y. The Ring around SN 1987A and Rotation of the Progenitor. *Y. Eriguchi, H. Yamaoka, K. Nomoto, & M. Hashimoto.* 392, 243, 104-A1 (1992)

ERIGUCHI, YOSHIHARU. General Relativistic Structure of Star-Toroid Systems. *Shogo Nishida, Yoshiharu Eriguchi, & Antonio Lanza.* 401, 618, 230-C1 (1992)

ERWIN, PETER. 0.8–1.6 Micron Spectroscopy of the Planetary Nebula NGC 7027. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 384, 536, 8-G1 (1992)

The Near-Infrared [Fe II] Lines of MWC 922. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 398, 278, 185-C1 (1992)

ESCALERA, ERIC. Wavelet Analysis of Subclustering: An Illustration, Abell 754. *Eric Escalera & Alain Mazure.* 388, 23, 49-C12 (1992)

ESPENAK, FRED. Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

ESTALELLA, R. Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

ESTALELLA, ROBERT. The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

ESTEBAN, CÉSAR. On the Chemodynamics of Wolf-Rayet Ring Nebulae: NGC 6888. *César Esteban & José M. Vílchez.* 390, 536, 82-A7 (1992)

EVANS, CHARLES R. A Test Suite for Magnetohydrodynamical Simulations. *James M. Stone, John F. Hawley, Charles R. Evans, & Michael L. Norman.* 388, 415, 55-E1 (1992)

EVANS, NANCY REMAGE. A Magnitude-limited Survey of Cepheid Companions in the Ultraviolet. *Nancy Remage Evans.* 384, 220, 3-F4 (1992)

The Luminosity of the Double-Mode Cepheid Y Carinae. *Nancy Remage Evans.* 385, 680, 21-E6 (1992)

New Calibrators for the Cepheid Period-Luminosity Relation. *Nancy Remage Evans.* 389, 657, 69-E8 (1992)

EVANS, NEAL J., II. A Survey of CS $J = 7 \rightarrow 6$ in Regions of Massive Star Formation. *René Plume, D. T. Jaffe, & Neal J. Evans II.* 78, 505, 9-F5 (1992)

Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

Surveys of Dense Cores for High-Velocity Gas. *Yuefang Wu, Shudong Zhou, & Neal J. Evans II.* 394, 196, 130-D9 (1992)

Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

EVENSON, KENNETH M. Accurate Far-Infrared Rotational Frequencies of Carbon Monoxide. *Thomas D. Varberg & Kenneth M. Evenson.* 385, 763, 22-E8 (1992)

EVIATAR, A. The Formation of Magnetic Cavities in Comets. *Z. Klopman, A. Eviatar, & R. Goldstein.* 394, 652, 137-E10 (1992)

EVRARD, A. E. The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

EVRARD, AUGUST E. Previrialization. *August E. Evrard & Mary M. Crone.* 394, L1, 133-A7 (1992)

FABBIANO, G. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)
An X-Ray Catalog and Atlas of Galaxies. *G. Fabbiano, D.-W. Kim, & G. Trinchieri.* 80, 531, 31-A11 (1992)
The X-Ray Spectra of Galaxies. I. Spectral Fits of Individual Galaxies and X-Ray Colors. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 80, 645, 32-D7 (1992)
The X-Ray Spectra of Galaxies. II. Average Spectral Properties and Emission Mechanisms. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 393, 134, 115-F12 (1992)
FABER, S. M. Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)
Dynamically Hot Galaxies. I. Structural Properties. *Ralf Bender, David Burstein, & S. M. Faber.* 399, 462, 203-F1 (1992)
FAHLMAN, G. G. Fokker-Planck Models and Globular Cluster Evolution: The Problem of M71. *G. A. Drukier, G. G. Fahlman, & H. B. Richer.* 386, 106, 25-D7 (1992)
FAINBERG, J. Detection of Fundamental and Harmonic Type III Radio Emission and the Associated Langmuir Waves at the Source Region. *M. J. Reiner, R. G. Stone, & J. Fainberg.* 394, 340, 132-B12 (1992)
FAKIR, REDOUANE. Cosmological Density Perturbations with Modified Gravity. *Redouane Fakir, Salman Habib, & William Unruh.* 394, 396, 134-C1 (1992)
FAN, J. H. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)
FAN, XIAO-MING. Systematic QSO Emission-Line Velocity Shifts and New Unbiased Redshifts. *David Tytler & Xiao-Ming Fan.* 79, 1, 12-B1 (1992)
FAN, Y. Local Acoustic Diagnostics of the Solar Interior. *D. C. Braun, C. A. Lindsey, Y. Fan, & S. M. Jefferies.* 392, 739, 111-D7 (1992)
FANELLI, MICHAEL N. Spectral Synthesis in the Ultraviolet. IV. A Library of Mean Stellar Groups. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 82, 197, 52-A1 (1992)
FANG, C. The Role of Chromospheric Condensations in the Continuum Emission of White-Light Flares. *W. Q. Gan, E. Rieger, H. Q. Zhang, & C. Fang.* 397, 694, 179-F8 (1992)
FANG, LI-ZHI. From Fairall 9 to High-z Objects: Pattern of Change in Ionization Structure. *Wei Zheng, Li-Zhi Fang, & Luc Binette.* 392, 74, 102-A1 (1992)
FARAONI, VALERIO. Nonstationary Gravitational Lenses and the Fermat Principle. *Valerio Faraoni.* 398, 425, 189-D1 (1992)
FATUZZO, MARCO. Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)
FAULKNER, JOHN. Interior Opacities and the Standard Solar Model. *John Faulkner & Fritz J. Swenson.* 386, L55, 36-D1 (1992)
Lithium Dilution through Main-Sequence Mass Loss. *Fritz J. Swenson & John Faulkner.* 395, 654, 151-D3 (1992)
FAZIO, G. Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)
FEAUTRIER, N. Theoretical Vibration-Rotation Spectrum of Si_2C. *W. Gabriel, G. Chambaud, P. Rosmus, A. Spielfiedel, & N. Feautrier.* 398, 706, 192-G7 (1992)
FEDERMAN, S. R. Formaldehyde Reactions in Dark Clouds. *A. D. Sen, V. G. Anicich, & S. R. Federman.* 391, 141, 87-F10 (1992)
Fractionation of CO in the Diffuse Clouds toward ζ Ophiuchi. *Yaron Sheffer, S. R. Federman, David L. Lambert, & Jason A. Cardelli.* 397, 482, 176-G3 (1992)
Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)
FEGAN, D. J. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.
FEIBELMAN, W. A. Al II Emission-Line Strengths in Low-Density Astrophysical Plasmas. *F. P. Keenan, L. K. Harra, K. M. Aggarwal, & W. A. Feibelman.* 385, 375, 16-E1 (1992)
Improved Calculations for the C III λλ1907,1909 and Si III λλ1883,1892 Electron Density Sensitive Emission-Line Ratios, and a Comparison with *IUE* Observations. *F. P. Keenan, W. A. Feibelman, & K. A. Berrington.* 389, 443, 65-D5 (1992)
The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)
Ultraviolet Observations of the Symbiotic Star AS 296. *A. Gutiérrez-Moreno, H. Moreno, & W. A. Feibelman.* 395, 295, 143-G1 (1992)
FEIGELSON, ERIC D. Far-Infrared Luminosity Functions of Normal Galaxies. *Takashi Isobe & Eric D. Feigelson.* 79, 197, 16-F3 (1992)
Linear Regression in Astronomy. II. *Eric D. Feigelson & Gutti Jogesh Babu.* 397, 55, 168-F9 (1992)
FELDMAN, HUME. Loitering Universe. *Varun Sahni, Hume Feldman, & Albert Stebbins.* 385, 1, 12-B1 (1992)
FELDMAN, P. A. A Sensitive Search for Rotational Lines of Vibrationally Excited HC_5N in IRC +10°216. *M. B. Bell, P. A. Feldman, & L. W. Avery.* 396, 643, 165-D1 (1992)
See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.
FELDMAN, P. D. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.
FELDMAN, PAUL D. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.
See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.
FELDMAN, U. Fe II Emission Lines. II. Excitation Mechanisms in Cool Stars. *P. G. Judge, C. Jordan, & U. Feldman.* 384, 613, 9-F10 (1992)
A Burst Model for Line Emission in the Solar Atmosphere. I. XUV Lines of He I and He II in Impulsive Flares. *J. M. Laming & U. Feldman.* 386, 364, 28-F8 (1992)
Variations in the Relative Elemental Abundances of Oxygen, Neon, Magnesium, and Iron in High-Temperature Solar Active-Region and Flare Plasmas. *D. L. McKenzie & U. Feldman.* 389, 764, 70-G7 (1992)
Element Abundances and Plasma Properties in a Coronal Polar Plume. *K. G. Widing & U. Feldman.* 392, 715, 111-B5 (1992)
The Potential for Plasma Diagnostics from Stellar Extreme-Ultraviolet Observations. *U. Feldman, P. Mandelbaum, J. F. Seely, G. A. Doschek, & H. Gursky.* 81, 387, 40-D3 (1992)
A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)
FELDMAN, URI. Transitions from Metastable Levels Emitted during Short-Duration Bursts: How Valid Are Their Calculated Intensities? *Uri Feldman.* 385, 758, 22-E1 (1992)
Observation of Upflows during Soft X-Ray Solar Flares. *J. F. Seely & Uri Feldman.* 394, 697, 138-B9 (1992)
FELDMEIER, J. J. Three-Epoch VLBI Observations of the Nucleus in the Lobe-dominated Quasar 3C 334. *D. H. Hough, A. C. S. Readhead, D. A. Wood, Jr., & J. J. Feldmeier.* 393, 81, 115-B1 (1992)
FELTEN, JAMES E. Line Fluorescence from the Ring around SN 1987A. *Eli Dwek & James E. Felten.* 387, 551, 45-E1 (1992)
FENCL, H. S. Gamma-Ray Line Afterglow from Burst Environments. *H. S. Fencl, R. N. Boyd, & Dieter Hartmann.* 401, 120, 222-E1 (1992)
FENIMORE, E. E. Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)
FERGUSON, H. C. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.
FERGUSON, HENRY C. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.
Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)
Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068: Erratum. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 397, L127, 181-F12 (1992) (Orig. paper in 394, L37, 139-B7 (1992))

See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

FERLAND, G. J. Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

N III Line Emission in Planetary Nebulae: Continuum Fluorescence. *G. J. Ferland.* 389, L63, 73-D1 (1992)

FERLAND, GARY. The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)

FERLAND, GARY J. See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

FERNANDES, D. N. Observations of High-Frequency and High-Wavenumber Solar Oscillations. *D. N. Fernandes, P. H. Scherrer, T. D. Tarbell, & A. M. Title.* 392, 736, 111-D1 (1992)

FERNLEY, J. A. On the Absolute Magnitude of RR Lyrae Stars: UU Ceti, RV Phoenicis, and W Tucanae. *C. Cacciari, G. Clementini, & J. A. Fernley.* 396, 219, 157-G5 (1992)

FERRANDO, P. Studies of the Low-Energy Galactic Cosmic-Ray Composition near 28 AU at Sunspot Minimum: The Primary-to-Primary Ratios. *W. R. Webber, P. Ferrando, A. Lukasiak, & F. B. McDonald.* 392, L91, 113-F1 (1992)

FERRARA, A. Hydrodynamics of the Hot Component of the Galactic Halo. II. Radiative and Dynamical Instabilities. *A. Ferrara & G. Einaudi.* 395, 475, 148-D9 (1992)

FERRARI, A. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

FERRARIO, LILIA. Why Stars Inflate to and Deflate from Red Giant Dimensions. *Alvio Renzini, Laura Greggio, Claudio Ritossa, & Lilia Ferrario.* 400, 280, 212-D8 (1992)

FERRIÈRE, KATIA. Effect of an Ensemble of Explosions on the Galactic Dynamo. I. General Formulation. *Katia Ferrière.* 389, 286, 63-E1 (1992)

Effect of the Explosion of Supernovae and Superbubbles on the Galactic Dynamo. *Katia Ferrière.* 391, 188, 88-C13 (1992)

FERRINI, FEDERICO. Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

FESEN, ROBERT A. An *IRAS* Survey of Galactic Supernova Remnants. *Jon M. Saken, Robert A. Fesen, & J. Michael Shull.* 81, 715, 45-F9 (1992)

An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

The Synchrotron Bays of the Crab Nebula: A Magnetic Structure Associated with a Presupernova Circumstellar Disk. *Robert A. Fesen, Crystal L. Martin, & J. Michael Shull.* 399, 599, 205-C7 (1992)

FICHTEL, C. E. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

FIEDLER, ROBERT A. Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

FIELDUS, M. S. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

FIGER, D. F. Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

FILIPPENKO, A. V. Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

See BOKER, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

FILIPPENKO, ALEXEI V. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf? *Alexei V. Filippenko, Michael W. Richmond, Thomas Matheson, Joseph C. Shields, E. Margaret Burbidge, Ross D. Cohen, Mark Dickinson, Matthew A. Malkan, Brant Nelson, Jochen Pietz, David Schlegel, Patrick Schmeer, Hyron Spinrad, Charles C. Steidel, Hien D. Tran, & William Wren.* 384, L15, 6-C1 (1992)

Early-Time Spectra of Type Ic Supernovae: Further Evidence for the Presence of Hydrogen. *Alexei V. Filippenko.* 384, L37, 11-B11 (1992)

See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

O-Star Photoionization Models of Liners with Weak [O I] λ6300 Emission. *Alexei V. Filippenko & Roberto Terlevich.* 397, L79, 181-A1 (1992)

FINESCHI, SILVANO. Electron Impact Polarization of Atomic Spectral Lines. I. A General Theoretical Scheme. *Silvano Fineschi & Egidio Landi Degl'Innocenti.* 392, 337, 105-B6 (1992)

FINK, R. L. The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V. Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

FINK, UWE. NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

FINLEY, JOHN P. *ROSAT* Observations of PSR 0656+14: A Pulsating and Cooling Neutron Star. *John P. Finley, Hakki Ögelman, & Ümit Kiziloğlu.* 394, L21, 133-C13 (1992)

Rotational Parameters of PSR 0540−69 as Measured at Optical Wavelengths. *Christian Gouiffes, John P. Finley, & Hakki Ögelman.* 394, 581, 136-E8 (1992)

FINN, J. M. Fast Plasmoid Formation in Double Arcades. *J. M. Finn, P. N. Guzdar, & J. Chen.* 393, 800, 125-G7 (1992)

FINOGENOV, A. See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

FIORE, FABRIZIO. PKS 0438−436: A High-Redshift Quasar with Strong X-Ray Absorption. *Belinda J. Wilkes, Martin Elvis, Fabrizio Fiore, Jonathan C. McDowell, Harvey Tananbaum, & Andrew Lawrence.* 393, L1, 120-A9 (1992)

FISCHER, DEBRA A. Multiplicity among M Dwarfs. *Debra A. Fischer & Geoffrey W. Marcy.* 396, 178, 157-C13 (1992)

FISCHER, JACQUELINE. The Unusual Cometary Star-forming Region G110−13. *Sten Odenwald, Jacqueline Fischer, Felix J. Lockman, & Sally Stemwedel.* 397, 174, 170-B9 (1992)

Multiple Jets from the Young Star IRAS 21334+5039. *Howard A. Smith & Jacqueline Fischer.* 398, L99, 194-D1 (1992)

FISCHER, M. L. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales. *M. L. Fischer, D. C. Alsop, E. S. Cheng, A. C. Clapp, D. A. Cottingham, J. O. Gundersen, T. C. Koch, E. Kreysa, P. R. Meinhold, A. E. Lange, P. M. Lubin, P. L. Richards, & G. F. Smoot.* 388, 242, 53-C11 (1992)

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

FISHER, DAVID. NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)

FISHER, GEORGE H. X-Ray–heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations. *Suzanne L. Hawley & George H. Fisher.* 78, 565, 10-F1 (1992)
X-Ray-heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations: Erratum. *Suzanne L. Hawley & George H. Fisher.* 81, 885, 48-D1 (1992) (Orig. paper in 78, 565, 10-F1 (1992))
FISHER, KARL. IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)
A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)
FISHER, KARL B. The Density Evolution of *IRAS* Galaxies. *Karl B. Fisher, Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 389, 188, 62-C11 (1992)
A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)
FISHER, R. R. Coronal Density and Temperature Structure from Coordinated Observations Associated with the Total Solar Eclipse of 1988 March 18. *M. Guhathakurta, G. J. Rottman, R. R. Fisher, F. Q. Orrall, & R. C. Altrock.* 388, 633, 58-B1 (1992)
FISHMAN, GERALD J. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.
FITZPATRICK, EDWARD L. Highly Ionized Atoms toward HD 93521. *Lyman Spitzer, Jr., & Edward L. Fitzpatrick.* 391, L41, 92-C11 (1992)
FIX, JOHN D. 1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras. *Alan J. Collison & John D. Fix.* 390, 191, 76-C13 (1992)
FIXSEN, D. J. Limits on Gaussian Fluctuations in the Cosmic Microwave Background at 19.2 GHz. *S. P. Boughn, E. S. Cheng, D. A. Cottingham, & D. J. Fixsen.* 391, L49, 99-C1 (1992)
FLANAGAN, C. See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.
FLECK, ROBERT C., JR. Interstellar Cloud Shapes: A Minimum-Hypothesis Account Involving a Purely Gravitational Effect. *Robert C. Fleck, Jr.* 401, 146, 222-G3 (1992)
FLEISHMAN, G. D. Microwave Transition Radiation in Solar Flares and in Astrophysics. *G. D. Fleishman & S. W. Kahler.* 394, 688, 138-A11 (1992)
FLETCHER, J. MURRAY. HRCam Survey for Closely Spaced Gravitational Lenses. *David Crampton, Robert D. McClure, & J. Murray Fletcher.* 392, 23, 101-C10 (1992)
FLYNN, C. Constraints on Baryonic Dark Matter in the Galactic Halo and Local Group. *D. Richstone, A. Gould, P. Guhathakurta, & C. Flynn.* 388, 354, 54-F12 (1992)
FLYNN, CHRIS. Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)
Local Dark Matter from a Carefully Selected Sample. *John N. Bahcall, Chris Flynn, & Andrew Gould.* 389, 234, 62-G9 (1992)
FOLTZ, C. B. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)
The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)
Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)
FOLTZ, CRAIG B. Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)
The Central Velocity Dispersion of the Lensing Galaxy in the Quadruple Lens System Q2237+0305. *Craig B. Foltz, Paul C. Hewett, Rachel L. Webster, & Geraint F. Lewis.* 386, L43, 36-C1 (1992)
Extinction in Low-Ionization Broad Absorption Line Quasi-stellar Objects. *David Sprayberry & Craig B. Foltz.* 390, 39, 74-E6 (1992)
The Radio Properties of the Broad-Absorption-Line QSOs. *John T. Stocke, Simon L. Morris, Ray J. Weymann, & Craig B. Foltz.* 396, 487, 163-E5 (1992)
An Objective Classification Scheme for QSO Spectra. *Paul J. Francis, Paul C. Hewett, Craig B. Foltz, & Frederic H. Chaffee.* 398, 476, 190-A13 (1992)
See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226−1024.
FONTAINE, G. On the Influence of the Convective Efficiency on the Determination of the Atmospheric Parameters of DA White Dwarfs. *P. Bergeron, F. Wesemael, & G. Fontaine.* 387, 288, 40-E1 (1992)
Adiabatic Properties of Pulsating DA White Dwarfs. II. Mode Trapping in Compositionally Stratified Models. *P. Brassard, G. Fontaine, F. Wesemael, & C. J. Hansen.* 80, 369, 27-E3 (1992)
See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.
Adiabatic Properties of Pulsating DA White Dwarfs. III. A Finite-Element Code for Solving Nonradial Pulsation Equations. *P. Brassard, C. Pelletier, G. Fontaine, & F. Wesemael.* 80, 725, 33-D11 (1992)
Adiabatic Properties of Pulsating DA White Dwarfs. IV. An Extensive Survey of the Period Structure of Evolutionary Models. *P. Brassard, G. Fontaine, F. Wesemael, & M. Tassoul.* 81, 747, 45-D3 (1992)
A Study of Metal Abundance Patterns in Cool White Dwarfs. I. Time-dependent Calculations of Gravitational Settling. *J. Dupuis, G. Fontaine, C. Pelletier, & F. Wesemael.* 82, 505, 56-A7 (1992)
The Case of G226-29: Evidence for a Pulsating DA White Dwarf with a Thick Hydrogen Layer? *G. Fontaine, P. Brassard, P. Bergeron, & F. Wesemael.* 399, L91, 201-C13 (1992)
FONTAINE, GILLES. An Interpretation of the Spectral Properties of Hot Hydrogen-rich White Dwarfs with Stratified H/He Model Atmospheres. *Stéphane Vennes & Gilles Fontaine.* 401, 288, 224-E7 (1992)
FONTÁN, CONSTANTINO FERRO. Development of Magnetohydrodynamic Turbulence in Coronal Loops. *Daniel O. Gómez & Constantino Ferro Fontán.* 394, 662, 137-F8 (1992)
FONTI, S. Vacuum Ultraviolet Extinction Measurements on Cosmic Dust Analog Carbon Grains. *L. Colangeli, A. Blanco, S. Fonti, & E. Bussoletti.* 392, 284, 104-E1 (1992)
FORBES, DUNCAN A. Infrared Hot Spots in the Nucleus of NGC 253: Erratum. *Duncan A. Forbes, Martin J. Ward, & D. L. DePoy.* 385, L31, 17-D10 (1992) (Orig. paper in 380, L63, 188-C6 (1991))
FORBES, T. G. Weighted Current Sheets Supported in Normal and Inverse Configurations: A Model for Prominence Observations. *P. Démoulin & T. G. Forbes.* 387, 394, 41-G5 (1992)
FORD, V. L. No Back-Side Infall into the Great Attractor. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 389, L5, 66-B6 (1992)
A Southern Sky Survey of the Peculiar Velocities of 1355 Spiral Galaxies. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 81, 413, 41-B1 (1992)
FORMAN, W. X-Ray Properties of Bright Far-Infrared Galaxies. *L. P. David, C. Jones, & W. Forman.* 388, 82, 50-B4 (1992)
A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)
Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)
FORMAN, WILLIAM. A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)
FORREST, W. J. Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)
FORREST, WILLIAM J. Near-Infrared Images of the Nuclear Region of NGC 5128. *Paula C. Turner, William J. Forrest, Judith L. Pipher, & Mark A. Shure.* 393, 648, 123-G7 (1992)

FORT, B. An Arc System with a Radial Gravitational Image in the Cluster MS 2137−23. *B. Fort, O. Le Fevre, F. Hammer, & M. Cailloux.* 399, L125, 208-A1 (1992)

FORT, BERNARD. Perturbations of Cluster Cusps by Galaxies: The Triple Arc in Cl 0024+1654. *Aggeliki Kassiola, Israel Kovner, & Bernard Fort.* 400, 41, 209-E1 (1992)

FORTE, JUAN C. Dust within Globular Clusters: A Large Bubble in NGC 6624? *Juan C. Forte, Sergio A. Cellone, Mariano Méndez, & E. Irene Vega.* 388, 383, 55-B4 (1992)

FORVEILLE, T. CO in the Cometary Globules of the Helix Nebula. *P. J. Huggins, R. Bachiller, P. Cox, & T. Forveille.* 401, L43, 227-F7 (1992)

FOSTER, V. J. Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

FOUNTAIN, GLEN H. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

FOWLER, JAMES R. Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

FOX, PETER A. A Formulation of Convection for Stellar Structure and Evolution Calculations without the Mixing-Length Theory Approximations. I. Application to the Sun. *Thomas Joseph Lydon, Peter A. Fox, & Sabatino Sofia.* 397, 701, 179-G3 (1992)

FRAIL, DALE A. Interstellar Scattering toward the Galactic Center as Probed by OH/IR Stars. *Huib Jan van Langevelde, Dale A. Frail, James M. Cordes, & Philip J. Diamond.* 396, 686, 165-G9 (1992)

FRANCAVIGLIA, MAURO. Inhomogeneous Cosmologies with Shock Waves. *Anna Curir, Mauro Francaviglia, & Enric Verdaguer.* 397, 390, 175-E3 (1992)

FRANCIA, P. New Observations of 5 Minute Oscillations in the Opposite Flanks of Solar Fraunhofer Lines. I. The Effect of Varying the Spectral and Temporal Resolution. *L. Bertello, B. Caccin, P. Francia, & E. Pietropaolo.* 401, 768, 232-B1 (1992)

FRANCIS, PAUL J. An Objective Classification Scheme for QSO Spectra. *Paul J. Francis, Paul C. Hewett, Craig B. Foltz, & Frederic H. Chaffee.* 398, 476, 190-A13 (1992)

FRANK, ADAM. Stellar Wind Paleontology. II. Faint Halos and Historical Mass Ejection in Planetary Nebulae. *Bruce Balick, Guillermo Gonzalez, Adam Frank, & George Jacoby.* 392, 582, 109-D11 (1992)

FRANK, JUHAN. Low-Mass X-Ray Binary Evolution and the Origin of Millisecond Pulsars. *Juhan Frank, Andrew R. King, & Jean-Pierre Lasota.* 385, L45, 23-C8 (1992)

FRANSSON, CLAES. Gamma-Ray Deposition and Nonthermal Excitation in Supernovae. *Cecilia Kozma & Claes Fransson.* 390, 602, 82-G1 (1992)

Pulsar Nebulae in Supernovae. *Roger A. Chevalier & Claes Fransson.* 395, 540, 149-E3 (1992)

FRANX, MARIJN. Elongated Disks and the Scatter in the Tully-Fisher Relation. *Marijn Franx & Tim de Zeeuw.* 392, L47, 113-B1 (1992)

NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)

FREEDMAN, WENDY L. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

FREEMAN, K. C. The Opacity of Spiral Disks. *A. Bosma, Y. Byun, K. C. Freeman, & E. Athanassoula.* 400, L21, 214-C10 (1992)

FREESE, KATHERINE. *COBE* Limits on Explosive Structure Formation Scenarios. *Janna J. Levin, Katherine Freese, & David N. Spergel.* 389, 464, 67-C5 (1992)

FREI, ZSOLT. Local Distribution of Old Neutron Stars. *Zsolt Frei, Xiaolan Huang, & Bohdan Paczyński.* 384, 105, 2-C10 (1992)

FREUDLING, WOLFRAM. H I Observations of Galaxies in the Hercules Supercluster. II. Additional UGC Galaxies and Galaxies in Selected CGCG Fields. *Wolfram Freudling, Martha P. Haynes, & Riccardo Giovanelli.* 79, 157, 16-B1 (1992)

FRIEL, EILEEN D. Chemical Composition of Open Clusters. III. Iron and Carbon in F Dwarfs in Coma, Praesepe, and M67. *Eileen D. Friel & Ann Merchant Boesgaard.* 387, 170, 39-A13 (1992)

FRIEMAN, JOSHUA A. Dark Matter, Long-Range Forces, and Large-Scale Structure. *Ben-Ami Gradwohl & Joshua A. Frieman.* 398, 407, 189-B8 (1992)

FRONTERA, F. *EXOSAT* Observations of the X-Ray Binary Pulsar 4U 1538−52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

FRUCHTER, A. S. The Continuum Eclipse of PSR 1957+20. *A. S. Fruchter & W. M. Goss.* 384, L47, 11-C9 (1992)

FRUEH, M. L. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

FRY, J. N. The Three-Point Function in an Ensemble of Numerical Simulations. *J. N. Fry, Adrian L. Melott, & Sergei F. Shandarin.* 393, 431, 121-C5 (1992)

Stability of Scale-invariant Nonlinear Gravitational Clustering. *Laddawan Ruamsuwan & J. N. Fry.* 396, 416, 162-F1 (1992)

FRYE, G. See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

FRYXELL, BRUCE. Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)

FRYXELL, BRUCE A. Thermonuclear Runaways in Nova Outbursts. *Anurag Shankar, David Arnett, & Bruce A. Fryxell.* 394, L13, 133-C1 (1992)

FUJIMOTO, MASAYUKI Y. On Mass-Transfer Rates in Classical Nova Precursors. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 384, 580, 9-D1 (1992)

Two-Component Gravitating Systems and Red Giant–like Structure. *Masayuki Y. Fujimoto & Kohji Tomisaka.* 385, 445, 18-F10 (1992)

Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)

Constraints on Element Mixing in Classical Novae. *Masayuki Y. Fujimoto & Icko Iben, Jr.* 399, 646, 206-A1 (1992)

FUKUGITA, M. Statistical Properties of Gravitational Lenses with a Nonzero Cosmological Constant. *M. Fukugita, T. Futamase, M. Kasai, & E. L. Turner.* 393, 3, 114-B4 (1992)

Hubble Flows in the Pisces-Perseus Region from the Giovanelli-Haynes Galaxy Sample. *T. Ichikawa & M. Fukugita.* 394, 61, 128-G5 (1992)

FUKUI, Y. Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

FUKUI, YASUO. A CO Study of Sharpless 171: Evidence for Interaction between the H II Region and Its Neighboring Molecular Cloud. *Ji Yang & Yasuo Fukui.* 386, 618, 33-A8 (1992)

^{13}CO and HCO^+ Observations of *IRAS* Sources in L1641. *Hua Chen, Yasuo Fukui, & Ji Yang.* 398, 544, 190-G12 (1992)

FUKUSHIGE, TOSHIYUKI. Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)

FULGIONE, W. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

FULLER, G. A. Dense Cores in Dark Clouds. VII. Line Width–Size Relations. *G. A. Fuller & P. C. Myers.* 384, 523, 8-F1 (1992)

Density Structure and Star Formation in Dense Cores with Thermal and Nonthermal Motions. *P. C. Myers & G. A. Fuller.* 396, 631, 165-C1 (1992)

FULLER, GEORGE M. Can a Closure Mass Neutrino Help Solve the Supernova Shock Reheating Problem? *George M. Fuller, R. Mayle, Bradley S. Meyer, & James R. Wilson.* 389, 517, 67-G10 (1992)

FULLERTON, A. W. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

Propagating Absorption Enhancements in the Wind of the Extreme Of Supergiant HD 151804. *A. W. Fullerton, D. R. Gies, & C. T. Bolton.* 390, 650, 83-D1 (1992)

FURTON, D. G. Extended Red Emission from Dust in Planetary Nebulae. *D. G. Furton & A. N. Witt.* 386, 587, 32-F1 (1992)

FUSHIKI, IKKO. Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

FUTAMASE, T. Statistical Properties of Gravitational Lenses with a Nonzero Cosmological Constant. *M. Fukugita, T. Futamase, M. Kasai, & E. L. Turner.* 393, 3, 114-B4 (1992)

GABRIEL, W. Theoretical Vibration-Rotation Spectrum of Si_2C. *W. Gabriel, G. Chambaud, P. Rosmus, A. Spielfiedel, & N. Feautrier.* 398, 706, 192-G7 (1992)

GABUZDA, D. C. A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

GAFFNEY, NIALL I. A 2.18 to 2.28 Micron Study of the Stellar Population in the Nucleus of M82. *Niall I. Gaffney & Dan F. Lester.* 394, 139, 129-F9 (1992)

GAIER, TODD. A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

GAISSER, THOMAS K. Cosmic-Ray Secondary Antiprotons: A Closer Look. *Thomas K. Gaisser & Robert K. Schaefer.* 394, 174, 130-B10 (1992)

GALEOTTI, P. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

GALEOTTI, PIERO. A Simple Multifractal Model of Nonlinear Gravitational Clustering. *Antonello Provenzale, Piero Galeotti, Giuseppe Murante, & Barbara Villone.* 401, 455, 228-D1 (1992)

GALLAGHER, JOHN S., III. Supergiant Filaments of Ionized Gas in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 391, L9, 91-G7 (1992)

GALLANT, YVES A. Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

GALLINO, R. *s*-Processing in Massive Stars as a Function of Metallicity and Interpretation of Observational Trends. *C. M. Raiteri, R. Gallino, & M. Busso.* 387, 263, 40-C1 (1992)

Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)

GAMMIE, CHARLES F. The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

GAN, W. Q. The Role of Chromospheric Condensations in the Continuum Emission of White-Light Flares. *W. Q. Gan, E. Rieger, H. Q. Zhang, & C. Fang.* 397, 694, 179-F8 (1992)

GARCIA, JORGE. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

GARCIA-BERRO, E. Axion Cooling of White Dwarfs. *J. Isern, M. Hernanz, & E. Garcia-Berro.* 392, L23, 106-D1 (1992)

GARDEN, ROGNVALD P. High-Velocity HCO^+ Emission Associated with the DR 21 Molecular Outflow. *Rognvald P. Garden & John E. Carlstrom.* 392, 602, 109-F7 (1992)

GARDNER, F. F. OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

GARMANY, CATHARINE D. An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

GARMIRE, G. Discovery of X-Ray Emission Associated with the Gum Nebula. *D. A. Leahy, J. Nousek, & G. Garmire.* 385, 561, 20-B4 (1992)

GARMIRE, G. P. The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V. Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

GARY, D. E. Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

GARY, DALE E. Measurement of the Solar Limb Brightness Profile at 3 Millimeters during the Total Eclipse of 1991 July 11. *L. Belkora, G. J. Hurford, Dale E. Gary, & D. P. Woody.* 400, 692, 219-B1 (1992)

GARY, G. ALLEN. On Neutralized Currents in the Solar Corona. *Ladye Kathryn Wilkinson, A. Gordon Emslie, & G. Allen Gary.* 392, L39, 106-E7 (1992)

A Regularization Method for Extrapolation of Solar Potential Magnetic Fields. *G. Allen Gary & Z. E. Musielak.* 392, 722, 111-C1 (1992)

GASKELL, C. M. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

GASKELL, C. MARTIN. Type II-L Supernovae—Standard Bombs. *C. Martin Gaskell.* 389, L17, 66-C6 (1992)

GAT, OMRI. Dynamical Stability of Two-dimensional Accretion Flows: An Analytic Study. *Omri Gat & Mario Livio.* 396, 542, 164-C1 (1992)

GATEWOOD, GEORGE. MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

GATLEY, I. Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

GATLEY, IAN. Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

GAUME, R. The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

GAUME, R. A. High Spatial Resolution 1.3 Centimeter Imaging of the NGC 2024 Star-forming Region. *R. A. Gaume, K. J. Johnston, & T. L. Wilson.* 388, 489, 56-D1 (1992)

GAUVIN, LISA S. A Study of the Stellar Population in the Chamaeleon Dark Clouds. *Lisa S. Gauvin & Karen M. Strom.* 385, 217, 14-F1 (1992)

GAYLEY, K. G. Partially Coherent Scattering in Stellar Chromospheres. II. The First-Order Escape Probability Method. *K. G. Gayley.* 390, 573, 82-D8 (1992)

Partially Coherent Scattering in Stellar Chromospheres. III. A Second-Order Escape Probability Method. *K. G. Gayley.* 390, 583, 82-E5 (1992)

A Modified Eddington-Barbier Relation in Highly Coherent Resonance-Line Wings. *K. G. Gayley.* 392, 353, 105-C9 (1992)

GAYLEY, KENNETH G. Partially Coherent Scattering in Stellar Chromospheres. I. Effects on Resonance Line Thermalization. *Kenneth G. Gayley.* 78, 549, 10-D7 (1992)

GAZTAÑAGA, ENRIQUE. *N*-Point Correlation Functions in the CfA and SSRS Redshift Distribution of Galaxies. *Enrique Gaztañaga.* 398, L17, 187-C7 (1992)

GEBALLE, T. R. Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)

The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)

GEBHARDT, KARL. A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)

GEHMEYR, MICHAEL. On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. I. The Mathematical Description. *Michael Gehmeyr.* 399, 265, 198-E1 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. II. Comparison of a Radiative and a Convective Model. *Michael Gehmeyr.* 399, 272, 198-E11 (1992)

GEHRZ, R. D. The Peculiar, Fast Nova Herculis 1991. *Charles E. Woodward, R. D. Gehrz, Terry J. Jones, & G. F. Lawrence.* 384, L41, 11-C1 (1992)

The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

Another Neon Nova: Early Infrared Photometry and Spectroscopy of Nova Cygni 1992. *T. L. Hayward, R. D. Gehrz, J. W. Miles, & J. R. Houck.* 401, L101, 233-D5 (1992)

GELATO, SERGIO. Relaxation-driven Binary Mergers. *Sergio Gelato, David F. Chernoff, & Ira Wasserman.* 384, 15, 1-C1 (1992)

GELLER, MARGARET J. The Distribution of Galaxies within the "Great Wall." *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 384, 396, 7-B7 (1992)

The Distribution of Nearby Rich Clusters of Galaxies. *Marc Postman, John P. Huchra, & Margaret J. Geller.* 384, 404, 7-C1 (1992)

Large-Scale Clustering of Galaxies in the CfA Redshift Survey. *Michael S. Vogeley, Changbom Park, Margaret J. Geller, & John P. Huchra.* 391, L5, 91-G1 (1992)

The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

GÊNOVA, RICARDO. Observation of Fine Structure in the Cold Phase of the Local Interstellar Medium Using K I Absorption. *Joaquín Trapero, John E. Beckman, Ricardo Gênova, & Conal D. McKeith.* 394, 552, 136-C1 (1992)

GENSHEIMER, P. D. High Spatial Resolution Maps of Circumstellar SiC_2 in IRC +10216. *P. D. Gensheimer, Lauren Likkel, & L. E. Snyder.* 388, L31, 52-C11 (1992)

GERARDI, G. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

GERBER, RICHARD A. A Model for Ring Galaxies: Arp 147–like Systems. *Richard A. Gerber, Susan A. Lamb, & Dinshaw S. Balsara.* 399, L51, 200-E10 (1992)

GERHARD, ORTWIN E. Dwarf Spheroidal Galaxies and the Mass of the Neutrino. *Ortwin E. Gerhard & David N. Spergel.* 389, L9, 66-B11 (1992)

Dwarf Spheroidal Galaxies and Non-Newtonian Gravity. *Ortwin E. Gerhard & David N. Spergel.* 397, 38, 168-E1 (1992)

GERMANI, M. S. Combined Infrared and Analytical Electron Microscope Studies of Interplanetary Dust Particles. *J. P. Bradley, H. J. Humecki, & M. S. Germani.* 394, 643, 137-D8 (1992)

GEROYANNIS, V. S. Models of White Dwarfs Distorted by Differential Rotation and Magnetic Fields. *V. S. Geroyannis & A. A. Hadjopoulos.* 81, 377, 40-B13 (1992)

GEZARI, D. Y. High-Resolution 12.4 Micron Images of the Starburst Region in M82. *C. M. Telesco & D. Y. Gezari.* 395, 461, 148-B11 (1992)

GEZARI, DANIEL Y. Mid-Infrared Imaging of Orion BN/KL: Astrometry of IRc2 and the SiO Maser. *Daniel Y. Gezari.* 396, L43, 160-G8 (1992)

GHIA, P. L. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

GHISELLINI, G. A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

Radiative Acceleration by Synchrotron Sources. *G. Ghisellini, G. Bodo, & E. Trussoni.* 401, 87, 222-B5 (1992)

GHOSH, K. K. *EXOSAT* Observations of the Broad-Line Radio Galaxy 3C 382. *K. K. Ghosh & S. Soundararajaperumal.* 389, 179, 62-C1 (1992)

X-Ray Observations of the Seyfert 1 Galaxy MCG 2-58-22. *K. K. Ghosh & S. Soundararajaperumal.* 398, 501, 190-D1 (1992)

GHOSH, S. K. Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

GIACCONI, RICCARDO. Optimal Grazing Incidence Optics and Its Application to Wide-Field X-Ray Imaging. *Christopher J. Burrows, Richard Burg, & Riccardo Giacconi.* 392, 760, 111-F13 (1992)

GIALLONGO, EMANUELE. The Evolution of the QSO Luminosity Function Up to $z = 4$: The Role of K-Correction Uncertainties. *Emanuele Giallongo & Fausto Vagnetti.* 396, 411, 162-E5 (1992)

A Direct Measure of the Gunn-Peterson Effect at $z = 3$: Limits on the Baryon Density of the Intergalactic Medium at High Redshifts. *Emanuele Giallongo, Stefano Cristiani, & Dario Trevese.* 398, L9, 187-B7 (1992)

The Redshift Evolution of the Lyman-Alpha Forest: Blending Effects. *Dario Trevese, Emanuele Giallongo, & Luca Camurani.* 398, 491, 190-C1 (1992)

GIAVALISCO, MAURO. The Shape of the Two-Point Correlation Function: Evidence for a Double Power Law. *Daniela Calzetti, Mauro Giavalisco, & Avery Meiksin.* 398, 429, 189-D7 (1992)

GIBNER, P. S. The Isotopic Composition of Cosmic-Ray B, C, N, and O: Evidence for an Overabundance of ^{18}O. *P. S. Gibner, R. A. Mewaldt, S. M. Schindler, E. C. Stone, & W. R. Webber.* 391, L89, 99-G5 (1992)

GIBSON, BRAD K. Liquid Mirror Surface Aberrations. I. Wavefront Analysis. *Brad K. Gibson & Paul Hickson.* 391, 409, 91-B1 (1992)

GIES, D. R. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

Propagating Absorption Enhancements in the Wind of the Extreme Of Supergiant HD 151804. *A. W. Fullerton, D. R. Gies, & C. T. Bolton.* 390, 650, 83-D1 (1992)

GIES, DOUGLAS R. Tomographic Separation of Composite Spectra. I. The Components of Plaskett's Star. *William G. Bagnuolo, Jr., Douglas R. Gies, & Michael S. Wiggs.* 385, 708, 21-G12 (1992)

Carbon, Nitrogen, and Oxygen Abundances in Early B-Type Stars. *Douglas R. Gies & David L. Lambert.* 387, 673, 47-B1 (1992)

A Spectroscopic Search for Colliding Stellar Winds in O-Type Close Binary Systems. II. Plaskett's Star (HD 47129). *Michael S. Wiggs & Douglas R. Gies.* 396, 238, 158-A12 (1992)

GIGAS, DETLEF. Downflows and Entropy Gradient Reversal in Deep Convection. *Kwing L. Chan & Detlef Gigas.* 389, L87, 73-F3 (1992)

GILFANOV, M. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

GILLETT, F. C. Infrared Observations and Thermal Models of the β Pictoris Disk. *D. E. Backman, F. C. Gillett, & F. C. Witteborn.* 385, 670, 21-D8 (1992)

GILMORE, D. KIRK. Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)

GILMOZZI, R. Properties of the SN 1987A Circumstellar Ring and the Distance to the Large Magellanic Cloud: Erratum. *N. Panagia, R. Gilmozzi, F. Macchetto, H.-M. Adorf, & R. P. Kirshner.* 386, L31, 29-E1 (1992) (Orig. paper in 380, L23, 181-D1 (1991))

The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

GILMOZZI, ROBERTO. The Nature of the Recurrent Nova T Coronae Borealis: Ultraviolet Evidence for a White Dwarf Accretor. *Pier Luigi Selvelli, Angelo Cassatella, & Roberto Gilmozzi.* 393, 289, 117-F12 (1992)

GINET, GREGORY P. On the Evidence for Mesogranules in Solar Power Spectra. *Gregory P. Ginet & George W. Simon.* 386, 359, 28-F1 (1992)

GIOIA, I. M. The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity

Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

GIOIA, ISABELLA M. Distant Cooling Flows. *Megan Donahue, John T. Stocke, & Isabella M. Gioia.* 385, 49, 12-E13 (1992)

The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

GIOMMI, P. X-Ray Luminosity and Spectral Variability of Hard X-Ray–selected Active Galactic Nuclei. *P. Grandi, G. Tagliaferri, P. Giommi, P. Barr, & G. G. C. Palumbo.* 82, 93, 50-C9 (1992)

GIOMMI, PAOLO. *EXOSAT* X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

GIOVANARDI, CARLO. Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

GIOVANELLI, RICCARDO. H I Observations of Galaxies in the Hercules Supercluster. II. Additional UGC Galaxies and Galaxies in Selected CGCG Fields. *Wolfram Freudling, Martha P. Haynes, & Riccardo Giovanelli.* 79, 157, 16-B1 (1992)

GIOVANNINI, O. The Discovery of a New DAV Star Using *IUE* Temperature Determination. *A. Kanaan, S. O. Kepler, O. Giovannini, & M. Diaz.* 390, L89, 85-B7 (1992)

GIRARD, L. Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

GIRARDI, M. Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)

GISLER, GALEN R. Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

GIURICIN, G. The Mass Distribution Function of Groups of Galaxies. *A. Pisani, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 389, 68, 61-A1 (1992)

Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)

GLACCUM, W. Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

GLASSGOLD, A. E. Protonated Acetylene: An Important Circumstellar and Interstellar Ion. *A. E. Glassgold, A. Omont, & M. Guélin.* 396, 115, 156-E5 (1992)

GLENDENNING, N. K. Application of the Improved Hartle Method for the Construction of General Relativistic Rotating Neutron Star Models. *F. Weber & N. K. Glendenning.* 390, 541, 82-B1 (1992)

Nuclear Solid Crust on Rotating Strange Quark Stars. *N. K. Glendenning & F. Weber.* 400, 647, 218-D11 (1992)

GLOECKLER, G. Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE*. *R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

GNEDIN, N. YU. Light Element Nucleosynthesis: A False Clue? *N. Yu. Gnedin & J. P. Ostriker.* 400, 1, 209-A13 (1992)

GNEDIN, NICKOLAY Y. A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

GÖRRES, J. A Measurement of the $^{14}C(n,\gamma)^{15}C$ Cross Section at a Stellar Temperature of $kT = 23.3$ keV. *Hermann Beer, M. Wiescher, F. Käppeler, J. Görres, & P. E. Koehler.* 387, 258, 40-B8 (1992)

GOLDBERG, DORIT. On the Study of the Mass Ratio of Spectroscopic Binaries. *Tsevi Mazeh & Dorit Goldberg.* 394, 592, 136-F10 (1992)

On the Mass-Ratio Distribution of Spectroscopic Binaries with Solar-Type Primaries. *Tsevi Mazeh, Dorit Goldberg, Antoine Duquennoy, & Michel Mayor.* 401, 265, 224-C9 (1992)

GOLDMAN, ITZHAK. PSR 0655+64: An Astrophysical Laboratory for Testing Relativistic Gravity Theories. *Itzhak Goldman.* 390, 494, 81-D11 (1992)

GOLDREICH, PETER. A New Class of *g*-Modes in Neutron Stars. *Andreas Reisenegger & Peter Goldreich.* 395, 240, 143-B7 (1992)

Magnetic Field Decay in Isolated Neutron Stars. *Peter Goldreich & Andreas Reisenegger.* 395, 250, 143-C5 (1992)

GOLDSHMIDT, OLEG. High-Energy X Emission from the Coma Cluster. *Yoel Rephaeli & Oleg Goldshmidt.* 397, 438, 176-B6 (1992)

GOLDSMITH, P. F. Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

GOLDSMITH, PAUL F. Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

High Angular Resolution Far-Infrared Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, D. F. Lester, & P. M. Harvey.* 389, 338, 64-B7 (1992)

GOLDSTEIN, R. The Formation of Magnetic Cavities in Comets. *Z. Klopman, A. Eviatar, & R. Goldstein.* 394, 652, 137-E10 (1992)

GOLDSTEIN, W.H. A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

GOLDSTEIN, WILLIAM H. X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)

GOLDWIRTH, D. S. The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)

GOLDWURM, A. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line.

SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line. *A. Goldwurm, J. Ballet, B. Cordier, J. Paul, L. Bouchet, J. P. Roques, D. Barret, P. Mandrou, R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, V. Kovtunenko, R. Kremnev, & K. Sukhanov.* 389, L79, 73-E6 (1992)

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524–62).

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

GOLIMOWSKI, DAVID A. Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

GOLUB, L. Coronal Loops: Current-based Heating Processes. *P. Beaufumé, B. Coppi, & L. Golub.* 393, 396, 119-A11 (1992)

X-Ray Observations of Sunspot Penumbral Structure. *B. J. Sams III, L. Golub, & N. O. Weiss.* 399, 313, 199-B8 (1992)

GÓMEZ, DANIEL O. Development of Magnetohydrodynamic Turbulence in Coronal Loops. *Daniel O. Gómez & Constantino Ferro Fontán.* 394, 662, 137-F8 (1992)

Kinetic Description of Electron Beams in the Solar Chromosphere. *Daniel O. Gómez & Pablo J. D. Mauas.* 398, 682, 192-E6 (1992)

GÓMEZ, J. F. The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

VLA Imaging of a Possible Circumstellar Disk around HL Tauri. *L. F. Rodríguez, J. Cantó, J. M. Torrelles, J. F. Gómez, & P. T. P. Ho.* 393, L29, 120-E1 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

GÓMEZ, José F. The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

GOMEZ DE CASTRO, ANA I. Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)

Resolving the Forbidden-Line Emission Regions of Young Stellar Objects: DD Tauri. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 397, L107, 181-D7 (1992)

GONATAS, CONSTANTINE P. High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

GONZALEZ, GUILLERMO. Stellar Wind Paleontology. II. Faint Halos and Historical Mass Ejection in Planetary Nebulae. *Bruce Balick, Guillermo Gonzalez, Adam Frank, & George Jacoby.* 392, 582, 109-D11 (1992)

GONZALEZ, J. JESÚS. Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)

GONZALEZ, R. D. Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

GOODE, PHILIP R. Localized Excitation of Solar Oscillations. *Philip R. Goode, Douglas Gough, & Alexander Kosovichev.* 387, 707, 47-E1 (1992)

Effects of Differential Rotation on Stellar Oscillations: A Second-Order Theory. *W. A. Dziembowski & Philip R. Goode.* 394, 670, 137-G5 (1992)

The Effect of an Inclined Magnetic Field on Solar Oscillation Frequencies. *Philip R. Goode & Michael J. Thompson.* 395, 307, 144-A1 (1992)

GOODING, ANDREW K. The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

GOODMAN, ALYSSA A. The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)

GOODMAN, JEREMY. Convective Instability in Differentially Rotating Disks. *Dongsu Ryu & Jeremy Goodman.* 388, 438, 55-F12 (1992)

GOODRICH, ROBERT W. Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

Polarization in the Narrow [O III] Lines in Seyfert 2 Galaxies. *Robert W. Goodrich.* 399, 50, 195-F8 (1992)

GOOSSENS, MARCEL. Linear Resistive Magnetohydrodynamic Computations of Resonant Absorption of Acoustic Oscillations in Sunspots. *Marcel Goossens & Stefaan Poedts.* 384, 348, 5-C8 (1992)

GOPALSWAMY, N. High Dynamic Range Multifrequency Radio Observations of a Solar Active Region. *S. M. White, M. R. Kundu, & N. Gopalswamy.* 78, 599, 11-A13 (1992)

Estimation of the Mass of a Coronal Mass Ejection from Radio Observations. *N. Gopalswamy & M. R. Kundu.* 390, L37, 78-F1 (1992)

GORDON, M. A. Time Variations in Millimeter-Wave Radio Recombination Lines from the Be Star MWC 349A. *M. A. Gordon.* 387, 701, 47-D5 (1992)

GÓRSKI, KRZYSZTOF M. $\delta T/T$ Limits from the UCSB South Pole Degree-Scale Experiment and Constraints on the Large-Scale Deviations from the Hubble Flow. *Krzysztof M. Górski.* 398, L5, 187-B1 (1992)

GORUGANTHU, R. Electron Energy Loss Spectra of Polycyclic Aromatic Hydrocarbons. *John W. Keller, M. A. Coplan, & R. Goruganthu.* 391, 872, 98-G1 (1992)

GOSS, W. M. The Continuum Eclipse of PSR 1957+20. *A. S. Fruchter & W. M. Goss.* 384, L47, 11-C9 (1992)

Formaldehyde Absorption in the Nucleus of NGC 3628. *Willem A. Baan & W. M. Goss.* 385, 188, 14-C10 (1992)

Anomalously High Apparent Abundances of Singly Ionized Helium in the Galactic H II Region W3A. *P. R. Roelfsema, W. M. Goss, & D. C. V Mallik.* 394, 188, 130-C13 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6−0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

GOSS, W. MILLER. See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

GOTT, J. RICHARD, III. The Topology of Large-Scale Structure. V. Two-dimensional Topology of Sky Maps. *J. Richard Gott III, Shude Mao, Changbom Park, & Ofer Lahav.* 385, 26, 12-D1 (1992)

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

Large-Scale Structure in the Southern Sky Redshift Survey. *Changbom Park, J. Richard Gott III, & L. Nicolaci da Costa.* 392, L51, 113-B6 (1992)

The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

GOTTLIEB, C. A. The Rotational Spectrum of the Carbon Chain Radical HCCCO. *A. L. Cooksy, J. K. G. Watson, C. A. Gottlieb, & P. Thaddeus.* 386, L27, 29-D7 (1992)

Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

GOTTLIEB, E. W. Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

GOUDA, NAOTERU. Surviving Cosmological Models after the Discovery of Large-Angle Anisotropies of the Cosmic Microwave Background. *Naoteru Gouda & Naoshi Sugiyama.* 395, L59, 153-E7 (1992)

GOUGH, DOUGLAS. Localized Excitation of Solar Oscillations. *Philip R. Goode, Douglas Gough, & Alexander Kosovichev.* 387, 707, 47-E1 (1992)

GOUIFFES, C. Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

GOUIFFES, CHRISTIAN. Rotational Parameters of PSR 0540−69 as Measured at Optical Wavelengths. *Christian Gouiffes, John P. Finley, & Hakki Ögelman.* 394, 581, 136-E8 (1992)

GOULD, A. Constraints on Baryonic Dark Matter in the Galactic Halo and Local Group. *D. Richstone, A. Gould, P. Guhathakurta, & C. Flynn.* 388, 354, 54-F12 (1992)

GOULD, ANDREW. Femtolensing of Gamma-Ray Bursters. *Andrew Gould.* 386, L5, 29-B5 (1992)

Big Bang Archeology: WIMP Capture by the Earth at Finite Optical Depth. *Andrew Gould.* 387, 21, 37-C7 (1992)

Cosmological Density of WIMPs from Solar and Terrestrial Annihilations. *Andrew Gould.* 388, 338, 54-E5 (1992)

Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)

Local Dark Matter from a Carefully Selected Sample. *John N. Bahcall, Chris Flynn, & Andrew Gould.* 389, 234, 62-G9 (1992)

Extending the Macho Search to $\sim 10^6\ M_\odot$. *Andrew Gould.* 392, 442, 107-G1 (1992)

Discovering Planetary Systems through Gravitational Microlenses. *Andrew Gould & Abraham Loeb.* 396, 104, 156-D5 (1992)

GOULD, ROBERT J. L-Shell X-Ray Opacity of Many-Electron Atoms. *Young-Dae Jung & Robert J. Gould.* 391, 403, 91-A7 (1992)

GRABELSKY, D. A. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

GRABHORN, ROBERT P. Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)

GRADWOHL, BEN-AMI. Dark Matter, Long-Range Forces, and Large-Scale Structure. *Ben-Ami Gradwohl & Joshua A. Frieman.* 398, 407, 189-B8 (1992)

GRADY, C. A. Newly Identified Main-Sequence A Stars with Circumstellar Dust. *K.-P. Cheng, F. C. Bruhweiler, Y. Kondo, & C. A. Grady.* 396, L83, 167-C1 (1992)

GRAF, U. U. Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

GRAHAM, J. A. Cospatial Counterrotating Stellar Disks in the Virgo E7/S0 Galaxy NGC 4550. *Vera C. Rubin, J. A. Graham, & Jeffrey D. P. Kenney.* 394, L9, 133-B7 (1992)

GRAHAM, J. R. Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

GRAMANN, MIRT. Non–Self-similar Clustering of Galaxies. *Mirt Gramann.* 401, 19, 221-C7 (1992)

GRANADOS, ARNO F. Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)

GRANATO, G. L. A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

GRANDI, P. X-Ray Luminosity and Spectral Variability of Hard X-Ray–selected Active Galactic Nuclei. *P. Grandi, G. Tagliaferri, P. Giommi, P. Barr, & G. G. C. Palumbo.* 82, 93, 50-C9 (1992)

GRASDALEN, G. L. Spatial Structure in the 10 Micron Spectrum of HD 44179 (The Red Rectangle). *G. L. Grasdalen, G. C. Sloan, & P. D. LeVan.* 384, L25, 6-D1 (1992)

8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)

CO (v = 1–0) Emission in the Molecular Shock Regions of OMC-1. *G. L. Grasdalen, John A. Hackwell, David K. Lynch, & Ray W. Russell.* 397, L119, 181-E13 (1992)

GRAUER, A. D. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)

GRAUER, ALBERT D. On the Pulsational Stability of the Pre–White Dwarf Star PG 1707+427. *Albert D. Grauer, Richard F. Green, & James Liebert.* 399, 686, 206-D7 (1992)

GRAY, DAVID F. The Activity Cycle of σ Draconis. *David F. Gray, Sallie L. Baliunas, G. W. Lockwood, & Brian A. Skiff.* 400, 681, 219-A1 (1992)

GREASON, MICHAEL R. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

GREBENEV, S. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line.

GREEN, JAMES C. The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

Extreme Ultraviolet Spectroscopy of G191-B2B: Direct Observation of Ionization Edges. *Erik Wilkinson, James C. Green, & Webster Cash.* 397, L51, 173-F13 (1992)

Extreme Ultraviolet Spectroscopy of Capella. *James C. Green, Erik Wilkinson, Thomas R. Ayres, & Webster Cash.* 397, L99, 181-C8 (1992)

GREEN, PAUL J. Carbon Star Luminosity Indicators. *Paul J. Green, Bruce Margon, Scott F. Anderson, & D. Jack MacConnell.* 400, 659, 218-E12 (1992)

GREEN, R. F. The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

GREEN, RICHARD F. The Emission-Line Properties of Low-Redshift Quasi-stellar Objects. *Todd A. Boroson & Richard F. Green.* 80, 109, 23-G9 (1992)

The Ultraviolet Absorption Spectrum of the Quasar H1821+643 (z = 0.297). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

On the Pulsational Stability of the Pre–White Dwarf Star PG 1707+427. *Albert D. Grauer, Richard F. Green, & James Liebert.* 399, 686, 206-D7 (1992)

GREEN, S. Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

GREENBERG, J. M. Extremely Low Thermal Conductivity of Amorphous Ice: Relevance to Comet Evolution. *A. Kouchi, J. M. Greenberg, T. Yamamoto, & T. Mukai.* 388, L73, 59-D9 (1992)

GREENBERG, J. MAYO. An Efficient Method for the Calculation of Mean Extinction. I. The Analyticity of the Complex Extinction Efficiency of Homogeneous Spheres. *Zhang-fan Xing & J. Mayo Greenberg.* 399, 164, 197-C3 (1992)

GREENE, THOMAS P. Near-Infrared Observations of Young Stellar Objects in the ρ Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 395, 516, 149-B5 (1992)

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

GREENFIELD, P. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

GREENFIELD, PERRY. Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

GREENHILL, L. J. Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

GREENHOUSE, M. A. The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

GREGG, MICHAEL D. Stellar Population–induced Peculiar Velocities of Elliptical Galaxies. *Michael D. Gregg.* 384, 43, 1-E5 (1992)

GREGGIO, LAURA. Why Stars Inflate to and Deflate from Red Giant Dimensions. *Alvio Renzini, Laura Greggio, Claudio Ritossa, & Lilia Ferrario.* 400, 280, 212-D8 (1992)

GREGORY, P. C. A New Method for the Detection of a Periodic Signal of Unknown Shape and Period. *P. C. Gregory & Thomas J. Loredo.* 398, 146, 183-F11 (1992)

GREVE, A. Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

GRIEST, KIM. Effect of Binary Sources on the Search for Massive Astrophysical Compact Halo Objects via Microlensing. *Kim Griest & Wayne Hu.* 397, 362, 175-B12 (1992)

GRIGSBY, JAMES A. Non–LTE, Line-blanketed Model Atmospheres for Late O- and Early B-Type Stars. *James A. Grigsby, Nancy D. Morrison, & Lawrence S. Anderson.* 78, 205, 4-D9 (1992)

GRILLO, F. An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

GRINDLAY, J. E. Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339–4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)

GROVE, J. E. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

GRUEFF, G. Identification and Spectroscopy of Radio Sources from the Third Bologna Survey. *D. J. Thompson, S. Djorgovski, M. Vigotti, & G. Grueff.* 81, 1, 35-B1 (1992)

GRUENWALD, R. B. Line-of-Sight Results from H II Region Models. *R. B. Gruenwald & S. M. Viegas.* 78, 153, 3-E7 (1992)

GRZEDZIELSKI, S. Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

GUDEHUS, DONALD H. A Measurement of the Primordial Helium Abundance Using μ Cassiopeiae. *James W. Haywood, Dennis J. Hegyi, & Donald H. Gudehus.* 392, 172, 103-B1 (1992)

GÜDEL, MANUEL. The Coevolution of Decimetric Millisecond Spikes and Hard X-Ray Emission during Solar Flares. *Markus J. Aschwanden & Manuel Güdel.* 401, 736, 231-F1 (1992)

GUÉLIN, M. Protonated Acetylene: An Important Circumstellar and Interstellar Ion. *A. E. Glassgold, A. Omont, & M. Guélin.* 396, 115, 156-E5 (1992)

GUENTHER, D. B. Standard Solar Model. *D. B. Guenther, P. Demarque, Y.-C. Kim, & M. H. Pinsonneault.* 387, 372, 41-E9 (1992)

Standard Solar Model. II. *g*-Modes. *D. B. Guenther, P. Demarque, M. H. Pinsonneault, & Y.-C. Kim.* 392, 328, 105-A10 (1992)

Evolutionary Models and the *p*-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

GÜSTEN, R. The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

GUHATHAKURTA, M. Coronal Density and Temperature Structure from Coordinated Observations Associated with the Total Solar Eclipse of 1988 March 18. *M. Guhathakurta, G. J. Rottman, R. R. Fisher, F. Q. Orrall, & R. C. Altrock.* 388, 633, 58-B1 (1992)

GUHATHAKURTA, P. Constraints on Baryonic Dark Matter in the Galactic Halo and Local Group. *D. Richstone, A. Gould, P. Guhathakurta, & C. Flynn.* 388, 354, 54-F12 (1992)

GUHATHAKURTA, PURAGRA. Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)

GUILLOTEAU, S. Dusty Disks in the Multiple Systems UZ Tauri and GG Tauri. *M. Simon & S. Guilloteau.* 397, L47, 173-F9 (1992)

GULKIS, S. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

GULL, THEODORE R. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

GUNDERSEN, J. O. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

GUNDERSEN, JOSHUA. A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

GUNJI, S. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A. *S. Gunji, T. Kamae, S. Miyazaki, Y. Sekimoto, T. Takahashi, T. Tamura, M. Tanaka, N. Yamaoka, T. Yamagami, M. Nomachi, H. Murakami, J. Braga, & J. A. Neri.* 397, L83, 181-A8 (1992)

GUNN, J. E. Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)

GUNN, JAMES E. Spectroscopy of Galaxies in Distant Clusters. IV. A Catalog of Photometry and Spectroscopy for Galaxies in Seven Clusters with $0.35 < z < 0.55$. *Alan Dressler & James E. Gunn.* 78, 1, 1-B1 (1992)

GUOJUN, QIAO. PSR 1259−63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

GUPTA, M. Propagation of Cosmic-Ray Nuclei in a Diffusing Galaxy with Convective Halo and Thin Matter Disk. *W. R. Webber, M. A. Lee, & M. Gupta.* 390, 96, 75-C3 (1992)

GUPTA, S. K. Evidence for Time Variability of PeV Energy Flux from Cygnus X-3: Ooty Observations during the Period 1984–1987. *S. C. Tonwar, S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, & R. Srivatsan.* 390, 273, 77-D1 (1992)

GURNETT, D. A. Connection between Ambient Density Fluctuations and Clumpy Langmuir Waves in Type III Radio Sources. *P. A. Robinson, I. H. Cairns, & D. A. Gurnett.* 387, L101, 48-F1 (1992)

GURSKY, H. The Potential for Plasma Diagnostics from Stellar Extreme-Ultraviolet Observations. *U. Feldman, P. Mandelbaum, J. F. Seely, G. A. Doschek, & H. Gursky.* 81, 387, 40-D3 (1992)

GUSH, H. P. Submillimeter Spectrum of Low-Temperature Hydrogen: The Pure Translational Band of H_2 and the $R(0)$ Line of HD. *E. H. Wishnow, I. Ozier, & H. P. Gush.* 392, L43, 106-F1 (1992)

GUTIÉRREZ-MORENO, A. Ultraviolet Observations of the Symbiotic Star AS 296. *A. Gutiérrez-Moreno, H. Moreno, & W. A. Feibelman.* 395, 295, 143-G1 (1992)

GUZDAR, P. N. Fast Plasmoid Formation in Double Arcades. *J. M. Finn, P. N. Guzdar, & J. Chen.* 393, 800, 125-G7 (1992)

GUZIK, JOYCE A. On the Sensitivity of High-Degree *p*-Mode Frequencies to the Solar Convection Zone Helium Abundance. *Joyce A. Guzik & Arthur N. Cox.* 386, 729, 34-D1 (1992)

GUZZO, LUIGI. The Distribution of Rich Clusters of Galaxies in the South Galactic Pole Region. *Luigi Guzzo, Chris A. Collins, Robert C. Nichol, & Stuart L. Lumsden.* 393, L5, 120-B1 (1992)

GWINN, C. R. Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.

HAAS, MICHAEL R. Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

HABE, ASAO. Dynamical Evolution of Highly Inclined Rings. *Dimitris M. Christodoulou, Neal Katz, Hans-Walter Rix, & Asao Habe.* 395, 113, 141-E1 (1992)

HABIB, SALMAN. Cosmological Density Perturbations with Modified Gravity. *Redouane Fakir, Salman Habib, & William Unruh.* 394, 396, 134-C1 (1992)

HACHISU, IZUMI. Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

HACKWELL, JOHN A. CO (v = 1–0) Emission in the Molecular Shock Regions of OMC-1. *G. L. Grasdalen, John A. Hackwell, David K. Lynch, & Ray W. Russell.* 397, L119, 181-E13 (1992)

8–13 Micron Spectroscopy of Nova Herculis 1991. *David K. Lynch, John A. Hackwell, & Ray W. Russell.* 398, 632, 192-A5 (1992)

HADJOPOULOS, A. A. Models of White Dwarfs Distorted by Differential Rotation and Magnetic Fields. *V. S. Geroyannis & A. A. Hadjopoulos.* 81, 377, 40-B13 (1992)

HAENSEL, P. Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

HAISCH, B. M. Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida,*

F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch. 391, 760, 97-D7 (1992)

HAISCH, BERNHARD. *ROSAT* X-Ray All-Sky Survey Observations of Hybrid Stars. *Bernhard Haisch, J. H. M. M. Schmitt, & C. Rosso.* 388, L61, 59-C7 (1992)

HALL, DOUGLAS S. Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)

HALL, LAWRENCE J. Self-interacting Dark Matter. *Eric D. Carlson, Marie E. Machacek, & Lawrence J. Hall.* 398, 43, 182-E7 (1992)

HALL, PATRICK B. Intensive Optical Monitoring of the BL Lacertae Object PKS 2155–304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

HALPERN, JOSHUA B. Radiative Lifetimes of the CN ($A^2\Pi_i$) Electronic State. *Richang Lu, Yuhui Huang, & Joshua B. Halpern.* 395, 710, 152-C1 (1992)

HALPERN, JULES P. On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)

HAMANN, FRED. The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)

Emission-Line Studies of Young Stars. III. Correlations with the Infrared Excess. *Fred Hamann & S. E. Persson.* 394, 628, 137-C5 (1992)

Emission-Line Studies of Young Stars. I. The T Tauri Stars. *Fred Hamann & S. E. Persson.* 82, 247, 52-F9 (1992)

Emission-Line Studies of Young Stars. II. The Herbig Ae/Be Stars. *Fred Hamann & S. E. Persson.* 82, 285, 53-C11 (1992)

HAMILTON, A. J. S. Measuring Omega and the Real Correlation Function from the Redshift Correlation Function. *A. J. S. Hamilton.* 385, L5, 17-B1 (1992)

HAMILTON, RUSSELL J. Stochastic Acceleration of Electrons. I. Effects of Collisions in Solar Flares. *Russell J. Hamilton & Vahé Petrosian.* 398, 350, 186-B5 (1992)

HAMMER, F. Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

An Arc System with a Radial Gravitational Image in the Cluster MS 2137–23. *B. Fort, O. Le Fevre, F. Hammer, & M. Cailloux.* 399, L125, 208-A1 (1992)

HAMMER, R. A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

HAN, M. Peculiar Velocities of Clusters in the Perseus-Pisces Supercluster. *M. Han & J. R. Mould.* 396, 453, 163-B1 (1992)

HAN, MINGSHENG. The Internal Extinction in Spiral Galaxies. *Mingsheng Han.* 391, 617, 95-F4 (1992)

I-Band CCD Surface Photometry of Spiral Galaxies in 16 Nearby Clusters. *Mingsheng Han.* 81, 35, 35-E5 (1992)

The Large-Scale Velocity Field beyond the Local Supercluster. *Mingsheng Han.* 395, 75, 141-A9 (1992)

HAN, XIAOHONG. Radio Observations of the 1989 Transient Event in V404 Cygni (= GS 2023+338). *Xiaohong Han & R. M. Hjellming.* 400, 304, 212-F6 (1992)

HANAMI, HITOSHI. Gamma-Ray Bursts from Planet-Magnetosphere Systems around Neutron Stars. *Hitoshi Hanami.* 389, L71, 73-D11 (1992)

HANAWA, TOMOYUKI. Giant Molecular Cloud Formation through the Parker Instability in a Skewed Magnetic Field. *Tomoyuki Hanawa, Ryoji Matsumoto, & Kazunari Shibata.* 393, L71, 127-E1 (1992)

HANES, D. A. Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J. Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes.* 81, 251, 38-D5 (1992)

HANNER, M. S. The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)

HANNIKAINEN, D. Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

HANSEN, C. J. Adiabatic Properties of Pulsating DA White Dwarfs. II. Mode Trapping in Compositionally Stratified Models. *P. Brassard, G. Fontaine, F. Wesemael, & C. J. Hansen.* 80, 369, 27-E3 (1992)

See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

HANSLMEIER, A. Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

HANSON, MARGARET MURRAY. The Diffuse Interstellar Cloud toward HD 179406 (20 Aquilae). *Margaret Murray Hanson, Theodore P. Snow, & John H. Black.* 392, 571, 109-C12 (1992)

HARDEE, PHILIP E. Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

Spatial Stability of the Magnetized Slab Jet. *Philip E. Hardee, Michael A. Cooper, Michael L. Norman, & James M. Stone.* 399, 478, 203-G11 (1992)

Nonlinear Dynamics of a Three-dimensional Jet. *Philip E. Hardee & David A. Clarke.* 400, L9, 214-B6 (1992)

HARDING, A. K. Resonant Compton Cooling and Annihilation Line Production in Gamma-Ray Bursts. *R. D. Preece & A. K. Harding.* 386, 308, 28-B1 (1992)

The Expected High-Energy to Ultra–High-Energy Gamma-Ray Spectrum of the Crab Nebula. *O. C. De Jager & A. K. Harding.* 396, 161, 157-B6 (1992)

HARIDASS, C. The Comet-Tail (*A*–*X*) System of CO^+: Precise Molecular Constants of Its $X\ ^2\Sigma^+$, $A\ ^2\Pi_i$, and $B\ ^2\Sigma^+$ States. *C. Haridass, C. V. V. Prasad, & S. Paddi Reddy.* 388, 669, 58-E1 (1992)

HARLANDER, J. Spatial Heterodyne Spectroscopy for the Exploration of Diffuse Interstellar Emission Lines at Far-Ultraviolet Wavelengths. *J. Harlander, R. J. Reynolds, & F. L. Roesler.* 396, 730, 166-D3 (1992)

HARNDEN, F. R., JR. Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

HARPER, D. A. The Structure of NGC 4565 at 100, 160, and 200 Microns: Continuum Dust Emission in a Quiescent Sb Galaxy. *G. Engargiola & D. A. Harper.* 394, 104, 129-C13 (1992)

HARRA, L. K. Al II Emission-Line Strengths in Low-Density Astrophysical Plasmas. *F. P. Keenan, L. K. Harra, K. M. Aggarwal, & W. A. Feibelman.* 385, 375, 16-E1 (1992)

C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)

Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)

HARRIS, A. I. Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

HARRIS, A. W. See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

HARRIS, WILLIAM E. Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J.*

Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes. 81, 251, 38-D5 (1992)

HARRISON, T. E. The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

HARTIG, GEORGE F. The Ultraviolet Absorption Spectrum of the Quasar H1821+643 ($z = 0.297$). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

Faint Object Spectrograph Observations of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, George F. Hartig, Buell T. Jannuzi, Dan Maoz, & Donald P. Schneider.* 400, L51, 220-C1 (1992)

See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226–1024.

HARTIGAN, PATRICK. The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

HARTMAN, R. C. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory. R. C. Hartman, D. L. Bertsch, C. E. Fichtel, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, H. I. Nel, P. L. Nolan, K. Pinkau, H. Rothermel, E. Schneid, M. Sommer, P. Sreekumar, & D. J. Thompson.* 385, L1, 17-A8 (1992)

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

HARTMANN, D. Gamma-Ray Bursts and Radio Pulsar Glitches. *D. Hartmann, K. Hurley, & M. Niel.* 387, 622, 46-D1 (1992)

HARTMANN, DIETER. Gamma-Ray Line Afterglow from Burst Environments. *H. S. Fencl, R. N. Boyd, & Dieter Hartmann.* 401, 120, 222-E1 (1992)

HARTMANN, DIETER H. Flash Photoionization of Gamma-Ray Burst Environments. *David L. Band & Dieter H. Hartmann.* 386, 299, 28-A5 (1992)

HARTMANN, LEE. Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

Balmer Line Profiles for Infalling T Tauri Envelopes. *Nuria Calvet & Lee Hartmann.* 386, 239, 27-B8 (1992)

Model Scattering Envelopes of Young Stellar Objects. I. Method and Application to Circumstellar Disks. *Barbara A. Whitney & Lee Hartmann.* 395, 529, 149-D1 (1992)

HARTMANN, LEE W. Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

HARTQUIST, T. W. Large Electric Fields in Acoustic Waves and the Stimulation of Lightning Discharges. *W. Pilipp, T. W. Hartquist, & G. E. Morfill.* 387, 364, 41-D13 (1992)

HARVEY, J. W. Scattering of *p*-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)

HARVEY, P. M. The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

High Angular Resolution Far-Infrared Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, D. F. Lester, & P. M. Harvey.* 389, 338, 64-B7 (1992)

HARVEY, PAUL M. Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

HARWIT, MARTIN. Cosmic Curvature and Condensation. *Martin Harwit.* 392, 394, 107-C1 (1992)

HASAN, S. S. The Influence of a Vertical Magnetic Field on Oscillations in an Isothermal Stratified Atmosphere. *S. S. Hasan & J. Christensen-Dalsgaard.* 396, 311, 159-A1 (1992)

HASCHICK, AUBREY. IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

HASCHICK, AUBREY D. OH and H I Absorption at the Nucleus of NGC 660. *Willem A. Baan, James Rhoads, & Aubrey D. Haschick.* 401, 508, 229-A6 (1992)

HASEGAWA, TATSUHIKO I. A CO $J = 2 \rightarrow 1$ Study of the Outflow Sources GL 490, GS 2591, M8E-IR, and W3 IRS 5. *George F. Mitchell, Tatsuhiko I. Hasegawa, & Jason Schella.* 386, 604, 32-G6 (1992)

Models of Gas-Grain Chemistry in Dense Interstellar Clouds with Complex Organic Molecules. *Tatsuhiko I. Hasegawa, Eric Herbst, & Chun Ming Leung.* 82, 167, 51-D13 (1992)

HASHIMOTO, M. The Ring around SN 1987A and Rotation of the Progenitor. *Y. Eriguchi, H. Yamaoka, K. Nomoto, & M. Hashimoto.* 392, 243, 104-A1 (1992)

HASINGER, G. The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

HASSAM, A. B. Reconnection of Stressed Magnetic Fields. *A. B. Hassam.* 399, 159, 197-B10 (1992)

HASWELL, C. A. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

HASWELL, CAROLE A. Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

HATSUKADE, I. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

HAUSCHILDT, P. H. Spherically Symmetric, Expanding, Non–LTE Model Atmospheres for Novae during Their Early Stages. *P. H. Hauschildt, R. Wehrse, S. Starrfield, & G. Shaviv.* 393, 307, 118-A4 (1992)

Radiative Equilibrium in Rapidly Expanding Shells. *P. H. Hauschildt.* 398, 224, 184-E9 (1992)

HAUSER, M. G. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

HAWLEY, JOHN F. A Test Suite for Magnetohydrodynamical Simulations. *James M. Stone, John F. Hawley, Charles R. Evans, & Michael L. Norman.* 388, 415, 55-E1 (1992)

Is the Oort *A*-Value a Universal Growth Rate Limit for Accretion Disk Shear Instabilities? *Steven A. Balbus & John F. Hawley.* 392, 662, 110-D12 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. III. Long-Term Evolution in a Shearing Sheet. *John F. Hawley & Steven A. Balbus.* 400, 595, 217-F12 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. IV. Nonaxisymmetric Perturbations. *Steven A. Balbus & John F. Hawley.* 400, 610, 218-A1 (1992)

HAWLEY, S. L. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

HAWLEY, SUZANNE L. X-Ray–heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations. *Suzanne L. Hawley & George H. Fisher.* 78, 565, 10-F1 (1992)

X-Ray-heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations: Erratum. *Suzanne L. Hawley & George H. Fisher.* 81, 885, 48-D1 (1992) (Orig. paper in 78, 565, 10-F1 (1992))

HAYAKAWA, SATIO. X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

HAYASHI, S. S. See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

HAYASHIDA, K. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

HAYASHIDA, KIYOSHI. The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

Discovery and X-Ray Properties of GS 1124–683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)

HAYNES, MARTHA P. H I Observations of Galaxies in the Hercules Supercluster. II. Additional UGC Galaxies and Galaxies in Selected CGCG Fields. *Wolfram Freudling, Martha P. Haynes, & Riccardo Giovanelli.* 79, 157, 16-B1 (1992)

HAYNES, R. F. G308.8–0.1: An Unusual Supernova Remnant Containing a Short-Period Pulsar, PSR J1341–6220. *J. L. Caswell, M. J. Kesteven, R. T. Stewart, D. K. Milne, & R. F. Haynes.* 399, L151, 208-D1 (1992)

HAYWARD, T. L. The High-Excitation Region of NGC 7027. *N. Rowlands, J. R. Houck, T. L. Hayward, & J. W. Miles.* 390, L93, 85-C1 (1992)

The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

Another Neon Nova: Early Infrared Photometry and Spectroscopy of Nova Cygni 1992. *T. L. Hayward, R. D. Gehrz, J. W. Miles, & J. R. Houck.* 401, L101, 233-D5 (1992)

HAYWOOD, JAMES W. A Measurement of the Primordial Helium Abundance Using μ Cassiopeiae. *James W. Haywood, Dennis J. Hegyi, & Donald H. Gudehus.* 392, 172, 103-B1 (1992)

HEAP, S. R. Properties of the Massive X-Ray Binary 4U 1700–37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)

HEATHCOTE, STEVE. Structure and Kinematics of the HH 111 Jet. *Bo Reipurth, A. C. Raga, & Steve Heathcote.* 392, 145, 102-F10 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

HECKMAN, T. M. Spectroscopy of Emission-Line Nebulae in Powerful Radio Galaxies: Interpretation. *S. A. Baum, T. M. Heckman, & W. van Breugel.* 389, 208, 62-E7 (1992)

HECKMAN, TIMOTHY M. The Infrared Properties of Quasars and Radio Galaxies: Testing the Unification Schemes. *Timothy M. Heckman, Kenneth C. Chambers, & Marc Postman.* 391, 39, 86-E3 (1992)

Multicolor Images of Spatially Resolved Structures around High-Redshift Quasars. *Matthew D. Lehnert, Timothy M. Heckman, Kenneth C. Chambers, & George K. Miley.* 393, 68, 114-G12 (1992)

HEGYI, DENNIS J. A Measurement of the Primordial Helium Abundance Using μ Cassiopeiae. *James W. Haywood, Dennis J. Hegyi, & Donald H. Gudehus.* 392, 172, 103-B1 (1992)

HEILES, CARL. The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

HEINTZ, W. D. Observations of Double Stars and New Pairs. XV. *W. D. Heintz.* 83, 351, 62-F1 (1992)

HELFAND, D. J. Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)

HELLIER, COEL. On Martell and Kaitchuck's Model for the Intermediate Polar FO Aquarii. *Koji Mukai & Coel Hellier.* 391, 295, 89-E10 (1992)

HELOU, GEORGE. The Compactness of Far-Infrared Bright Galaxies. *Zhong Wang & George Helou.* 398, L33, 187-E7 (1992)

HENDRY, PAUL D. The GDDSYN Light Curve Synthesis Method. *Paul D. Hendry & Stefan W. Mochnacki.* 388, 603, 57-F7 (1992)

Photometric Imaging of VW Cephei. *Paul D. Hendry, Stefan W. Mochnacki, & Andrew Collier Cameron.* 399, 246, 198-C8 (1992)

HENKEL, CHRISTIAN. A Survey for Extragalactic HCN and HCO^+. *Nguyen-Q-Rieu, James M. Jackson, Christian Henkel, Truong-Bach, & Rainer Mauersberger.* 399, 521, 204-D1 (1992)

HENNESSY, GREGORY S. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

Ultraviolet Imaging Telescope Observations of the Crab Nebula. *Gregory S. Hennessy, Robert W. O'Connell, Kwang P. Cheng, Ralph C. Bohlin, Nicholas R. Collins, Theodore R. Gull, Paul Hintzen, Joan E. Isensee, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L13, 144-E5 (1992)

HENNING, P. A. A Study of a 21 Centimeter–selected Sample of Galaxies. I. The Survey. *P. A. Henning.* 78, 365, 7-D3 (1992)

HENRIKSEN, R. N. Turbulence in Cooling Flows. *Catherine F. Westbury & R. N. Henriksen.* 388, 64, 49-G12 (1992)

HENRY, GREGORY W. Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)

HENRY, J. P. The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

HENRY, R. C. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

The Low Filling Factor of Dust in the Galaxy. *Jayant Murthy, H. J. Walker, & R. C. Henry.* 401, 574, 229-F8 (1992)

HENRY, RICHARD B. C. Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

HENRY, RICHARD C. See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

HENSLER, G. The Collapse of Our Galaxy and the Formation of the Galactic Disk. *A. Burkert, J. W. Truran, & G. Hensler.* 391, 651, 96-B4 (1992)

HERANT, MARC. Postexplosion Hydrodynamics of SN 1987A. *Marc Herant & Willy Benz.* 387, 294, 40-E9 (1992)

Postcollapse Hydrodynamics of SN 1987A: Two-dimensional Simulations of the Early Evolution. *Marc Herant, Willy Benz, & Stirling Colgate.* 395, 642, 151-B13 (1992)

HERAS, A. M. The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

HERBIG, G. H. On the Interpretation of the Spectrum of FU Orionis. *P. P. Petrov & G. H. Herbig.* 392, 209, 103-E1 (1992)

HERBIG, T. A Compendium of Radio Spectra and Luminosities for Three Complete Samples of Radio Sources. *T. Herbig & A. C. S. Readhead.* 81, 83, 36-B11 (1992)

HERBST, ERIC. Models of Gas-Grain Chemistry in Dense Interstellar Clouds with Complex Organic Molecules. *Tatsuhiko I. Hasegawa, Eric Herbst, & Chun Ming Leung.* 82, 167, 51-D13 (1992)

An Extension of the High-Resolution Millimeter- and Submillimeter-Wave Spectrum of Methanol to High Angular Momentum Quantum Numbers. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 82, 405, 55-A9 (1992)

Calculations of Ion-Molecule Deuterium Fractionation Reactions Involving HD. *Sergio A. Maluendes, A. D. McLean, & Er. · Herbst.* 397, 477, 176-F10 (1992)

HERBST, T. M. Infrared Spectroscopy of Dense Clouds in the C–H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

HERBST, WILLIAM. Rotation Periods of T Tauri Stars in the Orion Nebula Cluster: A Bimodal Frequency Distribution. *Joanne M. Attridge & William Herbst.* 398, L61, 188-B1 (1992)

HERNANZ, M. Axion Cooling of White Dwarfs. *J. Isern, M. Hernanz, & E. Garcia-Berro.* 392, L23, 106-D1 (1992)

HERNQUIST, LARS. A Self-consistent Field Method for Galactic Dynamics. *Lars Hernquist & Jeremiah P. Ostriker.* 386, 375, 30-B6 (1992)

Statistical Mechanics of Violent Relaxation. *David N. Spergel & Lars Hernquist.* 397, L75, 180-G7 (1992)

Galaxies and Gas in a Cold Dark Matter Universe. *Neal Katz, Lars Hernquist, & David H. Weinberg.* 399, L109, 207-F1 (1992)

Formation of Shells in Major Mergers. *Lars Hernquist & David N. Spergel.* 399, L117, 207-G1 (1992)

Gravity and Count Probabilities in an Expanding Universe. *François R. Bouchet & Lars Hernquist.* 400, 25, 209-C13 (1992)

Bar-Spheroid Interaction in Galaxies. *Lars Hernquist & Martin D. Weinberg.* 400, 80, 210-A6 (1992)

Structure of Merger Remnants. I. Bulgeless Progenitors. *Lars Hernquist.* 400, 460, 216-A9 (1992)

A Novel Mechanism for Creating Double Pulsars. *Steinn Sigurdsson & Lars Hernquist.* 401, L93, 233-C7 (1992)

HERR, R. B. Transient Periodicities in X-Ray–active Red Dwarfs: First Results from Mount Cuba and Interpretation with an Oscillating Loop Model. *D. J. Mullan, R. B. Herr, & S. Bhattacharyya.* 391, 265, 89-C1 (1992)

HERTZ, P. X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

HESSER, JAMES E. Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

HESSER, JAMES H. CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

HESTER, J. JEFF. Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

CNO Abundances and Temperature Fluctuations in the Orion Nebula. *Donald K. Walter, Reginald J. Dufour, & J. Jeff Hester.* 397, 196, 170-D7 (1992)

HEWETT, P. C. Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

HEWETT, PAUL C. Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

The Central Velocity Dispersion of the Lensing Galaxy in the Quadruple Lens System Q2237+0305. *Craig B. Foltz, Paul C. Hewett, Rachel L. Webster, & Geraint F. Lewis.* 386, L43, 36-C1 (1992)

An Objective Classification Scheme for QSO Spectra. *Paul J. Francis, Paul C. Hewett, Craig B. Foltz, & Frederic H. Chaffee.* 398, 476, 190-A13 (1992)

HEWETT, ROBERT. Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

HEWITT, A. A Catalog of Absorption in the Spectra of Quasi-stellar Objects: Erratum (Orig. paper in 77, 203, 47-B1 (1991)). *V. Junkkarinen, A. Hewitt, & G. Burbidge.* 81, 409, 40-F5 (1992) (Orig. paper in 77, 203, 47-B1 (1991))

HEWITT, J. N. The Radio Time Delay in the Double Quasar 0957+561. *J. Lehár, J. N. Hewitt, D. H. Roberts, & B. F. Burke.* 384, 453, 7-G1 (1992)

HEWITT, JACQUELINE N. The Time Delay of Gravitational Lens 0957+561. I. Methodology and Analysis of Optical Photometric Data. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 404, 18-C4 (1992)

The Time Delay of Gravitational Lens 0957+561. II. Analysis of Radio Data and Combined Optical-Radio Analysis. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 416, 18-D4 (1992)

HEYER, M. H. Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

HEYVAERTS, J. A Self-consistent Turbulent Model for Solar Coronal Heating. *J. Heyvaerts & E. R. Priest.* 390, 297, 77-F3 (1992)

HIBBERT, A. Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

The Oscillator Strength of the Si II $3s^2 3p\ ^2P$–$3s 3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)

HICKSON, PAUL. Liquid Mirror Surface Aberrations. I. Wavefront Analysis. *Brad K. Gibson & Paul Hickson.* 391, 409, 91-B1 (1992)

Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

HIGDON, J. C. *HEAO 3* Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)

Are Repeaters Responsible for Gamma-Ray Burst $\langle V/V_{max} \rangle < 0.5$? *R. E. Lingenfelter & J. C. Higdon.* 397, 576, 178-B7 (1992)

HIGDON, J. L. Large Infrared and Optical Color Gradients in the Cartwheel Ring Galaxy: Evidence for the First Epoch of Star Formation in the Wake of an Expanding Ring. *P. M. Marcum, P. N. Appleton, & J. L. Higdon.* 399, 57, 195-G3 (1992)

HIKITA, ATSUSHI. The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)

Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)

HILDEBRAND, R. Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

HILL, GARY J. Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

HILL, HENRY A. Tests of the Detection and Mode Classifications of Low-Degree Solar Gravity Modes with 1978 Solar Diameter Observations. *Henry A. Hill.* 78, 283, 5-F1 (1992)

HILL, JESSE K. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31. *Jesse K. Hill, Barbara B. Pfarr, Ralph C. Bohlin, Joan E. Isensee, Robert W. O'Connell, Susan G.*

Neff, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher. 395, L33, 145-B1 (1992)

Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81. *Jesse K. Hill, Ralph C. Bohlin, Kwang-Ping Cheng, Paul M. N. Hintzen, Wayne B. Landsman, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L37, 145-B9 (1992)

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

HILL, JOHN M. Rotation of the Galactic Bulge. *Dante Minniti, Simon D. M. White, Edward W. Olszewski, & John M. Hill.* 393, L47, 127-B5 (1992)

HILL, ROBERT J. A Homogeneous Catalog of New *UBV* and Hβ Photometry of B- and A-Type Stars in and around the Scorpius-Centaurus OB Association. *Robert W. Slawson, Robert J. Hill, & John D. Landstreet.* 82, 117, 50-E9 (1992)

HILL, ROBERT S. Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904). *Robert S. Hill, Jesse K. Hill, Wayne B. Landsman, Ralph C. Bohlin, K.-P. Cheng, Paul M. N. Hintzen, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L17, 144-F1 (1992)

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

HILLENBRAND, LYNNE A. Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)

HILLS, J. G. Three-dimensional Hydrodynamical Simulations of Colliding Stars. III. Collisions and Tidal Captures of Unequal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 389, 546, 68-C8 (1992)

Stellar Encounters Involving Neutron Stars in Globular Cluster Cores. *M. B. Davies, W. Benz, & J. G. Hills.* 401, 246, 224-B1 (1992)

HILLS, R. E. Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

HINE, B. P. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

HINSHAW, G. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

HINTZEN, P. An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

HINTZEN, PAUL. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

HINTZEN, PAUL M. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

HINTZEN, PAUL M. N. See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

HIRAHARA, YASUHIRO. A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1). *Yasuhiro Hirahara, Hiroko Suzuki, Satoshi Yamamoto, Kentarou Kawaguchi, Norio Kaifu, Masatoshi Ohishi, Shuro Takano, Shin-ichi Ishikawa, & Akimasa Masuda.* 394, 539, 136-B1 (1992)

HIRANO, N. The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

HIRANO, NAOMI. Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)

HIROTANI, KOUICHI. Accretion in a Kerr Black Hole Magnetosphere: Energy and Angular Momentum Transport between the Magnetic Field and the Matter. *Kouichi Hirotani, Masaaki Takahashi, Shin-ya Nitta, & Akira Tomimatsu.* 386, 455, 31-A11 (1992)

HJELLMING, R. M. Simultaneous X-Ray and Radio Observations of GX 5−1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

Radio Observations of the 1989 Transient Event in V404 Cygni (= GS 2023+338). *Xiaohong Han & R. M. Hjellming.* 400, 304, 212-F6 (1992)

HO, P. T. P. The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

VLA Imaging of a Possible Circumstellar Disk around HL Tauri. *L. F. Rodríguez, J. Cantó, J. M. Torrelles, J. F. Gómez, & P. T. P. Ho.* 393, L29, 120-E1 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

HO, PAUL T. P. On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

HOBBS, L. M. Mass Loss and a Possible Population II Lithium Dip. *David S. P. Dearborn, David N. Schramm, & L. M. Hobbs.* 394, L61, 139-E1 (1992)

HODGKIN, SIMON T. First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

HOFFMAN, G. LYLE. A Huge H I Cloud near a Galaxy Pair. *G. Lyle Hoffman, E. E. Salpeter, C. Lamphier, & T. Roos.* 388, L5, 52-A11 (1992)

HOFFMAN, R. D. *r*-Process Nucleosynthesis in the High-Entropy Supernova Bubble. *B. S. Meyer, G. J. Mathews, W. M. Howard, S. E. Woosley, & R. D. Hoffman.* 399, 656, 206-B1 (1992)

HOFFMAN, ROBERT D. The α-Process and the *r*-Process. *S. E. Woosley & Robert D. Hoffman.* 395, 202, 142-F7 (1992)

HOFFMAN, YEHUDA. Primordial Gaussian Perturbation Fields: Constrained Realizations. *Yehuda Hoffman & Erez Ribak.* 384, 448, 7-F9 (1992)

The Formation of Giant Low Surface Brightness Galaxies. *Yehuda Hoffman, Joseph Silk, & Rosemary F. G. Wyse.* 388, L13, 52-B6 (1992)

HOGAN, CRAIG J. Self-Organization of Cosmic Radiation Pressure Instability. II. One-dimensional Simulations. *Craig J. Hogan & Jorden Woods.* 384, 111, 2-D4 (1992)

COBE Anisotropy from Supercluster Gas. *Craig J. Hogan.* 398, L77, 194-B1 (1992)

HOGG, DAVID E. Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

HOLBERG, J. B. The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

HOLDAWAY, M. A. Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

HOLLENBACH, D. J. Mid-Infrared Rotational Line Emission from Interstellar Molecular Hydrogen. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 399, 563, 204-G7 (1992)

HOLLENBACH, DAVID J. Planar H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 394, 221, 130-F10 (1992)

Heating of H II Regions with Application to the Galactic Center. *Philip R. Maloney, David J. Hollenbach, & Charles H. Townes.* 401, 559, 229-E5 (1992)

HOLLIS, J. M. Comparing Restored *HST* and VLA Imagery of R Aquarii. *J. M. Hollis, J. E. Dorband, & F. Yusef-Zadeh.* 386, 293, 27-G3 (1992)

The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)

HOLLISTER, TIMOTHY C. Cold Dissipationless Collapse of Spherical Systems: Sensitivity to the Initial Density Law. *John K. Cannizzo & Timothy C. Hollister.* 400, 58, 209-F6 (1992)

HOLLWEG, JOSEPH V. Alfvénically Driven Slow Shocks in the Solar Chromosphere and Corona. *Joseph V. Hollweg.* 389, 731, 70-D10 (1992)

HOLMAN, G. D. Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

HOLMAN, GORDON D. Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

A Thermal/Nonthermal Model for Solar Microwave Bursts. *Stephen G. Benka & Gordon D. Holman.* 391, 854, 98-E7 (1992)

A Hybrid Thermal/Nonthermal Model for the Energetic Emissions from Solar Flares. *Gordon D. Holman & Stephen G. Benka.* 400, L79, 220-F8 (1992)

HOLMGREN, D. The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

HOLT, S. S. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

HOLZER, THOMAS E. A Parameter Study of the Two-Fluid Solar Wind. *Ørnulf Sandbæk, Egil Leer, & Thomas E. Holzer.* 400, 362, 213-D8 (1992)

HONG, WOOPYO. Possibility of Unique Detection of Primordial Black Hole Gamma-Ray Bursts. *David B. Cline & Woopyo Hong.* 401, L57, 232-F3 (1992)

HOOD, A. W. Magnetohydrodynamic Waves in a Solar Prominence. *R. Oliver, J. L. Ballester, A. W. Hood, & E. R. Priest.* 400, 369, 213-E1 (1992)

HOPPE, PETER. Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

HORCH, E. The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

HORD, C. W. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.

HORNE, K. Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

HORNE, KEITH. Eclipse Studies of the Dwarf Nova HT Cassiopeiae. II. White Dwarf and Accretion Disk. *Janet H. Wood, Keith Horne, & Stephane Vennes.* 385, 294, 15-E6 (1992)

The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

HOROWITZ, IRWIN K. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

HORTON, L. Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

HOSHINO, MASAHIRO. Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

HOSSAIN, MURSHED. Three-dimensional Compressible Hydrodynamic Convection in the Sun and Stars: Erratum. *Murshed Hossain & D. J. Mullan.* 397, 353, 172-C5 (1992) (Orig. paper in 380, 631, 186-A10 (1991))

HOUCK, J. R. The High-Excitation Region of NGC 7027. *N. Rowlands, J. R. Houck, T. L. Hayward, & J. W. Miles.* 390, L93, 85-C1 (1992)

Another Neon Nova: Early Infrared Photometry and Spectroscopy of Nova Cygni 1992. *T. L. Hayward, R. D. Gehrz, J. W. Miles, & J. R. Houck.* 401, L101, 233-D5 (1992)

HOUCK, JOHN C. Linear Stability Analysis of Spherical Accretion Flows onto Compact Objects. *John C. Houck & Roger A. Chevalier.* 395, 592, 150-D1 (1992)

HOUGH, D. H. Three-Epoch VLBI Observations of the Nucleus in the Lobe-dominated Quasar 3C 334. *D. H. Hough, A. C. S. Readhead, D. A. Wood, Jr., & J. J. Feldmeier.* 393, 81, 115-B1 (1992)

HOUGH, J. H. Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

HOULAHAN, PADRAIG. Recognition and Characterization of Hierarchical Interstellar Structure. II. Structure Tree Statistics. *Padraig Houlahan & John Scalo.* 393, 172, 116-C1 (1992)

HOWARD, W. M. *r*-Process Nucleosynthesis in the High-Entropy Supernova Bubble. *B. S. Meyer, G. J. Mathews, W. M. Howard, S. E. Woosley, & R. D. Hoffman.* 399, 656, 206-B1 (1992)

HOWARTH, I. D. See PRINIA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

HOWELL, R. R. Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)

10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)

HOWELL, S. B. Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

HOWELL, STEVE B. Spectroscopic Confirmation of High Galactic Latitude Cataclysmic Variables. *Paula Szkody & Steve B. Howell.* 78, 537, 10-C3 (1992)

TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)

Spectroscopic Observations of the Cataclysmic Variable PG 0917+342: An Ultra–Short-Period Nova-like System. *Danuta Dobrzycka & Steve B. Howell.* 388, 614, 57-G6 (1992)

HOYLE, F. Possible Explanations of the Large Angle Fluctuations of the Microwave Background. *F. Hoyle & G. Burbidge.* 399, L9, 200-A1 (1992)

HOYT, DOUGLAS V. New Information on Solar Activity, 1779–1818, from Sir William Herschel's Unpublished Notebooks. *Douglas V. Hoyt & Kenneth H. Schatten.* 384, 361, 5-D9 (1992)

Sir William Herschel's Notebooks: Abstracts of Solar Observations. *Douglas V. Hoyt & Kenneth H. Schatten.* 78, 301, 5-G9 (1992)

HRIVNAK, B. J. Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)

HSIEH, K. C. Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

HSU, J. J. L. Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)

HU, ESTHER M. Lyα Emission from Cooling Flows and Measures of the Dust Content of Rich Clusters of Galaxies. *Esther M. Hu.* 391, 608, 95-E7 (1992)

HU, WAYNE. Effect of Binary Sources on the Search for Massive Astrophysical Compact Halo Objects via Microlensing. *Kim Griest & Wayne Hu.* 397, 362, 175-B12 (1992)

HUA, XIN-MIN. Angle-dependent Green's Functions for Relativistic Compton Reflection. *Xin-Min Hua & Richard E. Lingenfelter.* 397, 591, 178-D1 (1992)

HUANG, XIAOLAN. Local Distribution of Old Neutron Stars. *Zsolt Frei, Xiaolan Huang, & Bohdan Paczyński.* 384, 105, 2-C10 (1992)

HUANG, YI-LONG. Structure and Kinematics of Dense Gas Associated with the Supernova Remnant IC 443. *R. L. Dickman, Ronald L. Snell, L. M. Ziurys, & Yi-Long Huang.* 400, 203, 211-C9 (1992)

HUANG, YUHUI. Radiative Lifetimes of the CN ($A^2\Pi_i$) Electronic State. *Richang Lu, Yuhui Huang, & Joshua B. Halpern.* 395, 710, 152-C1 (1992)

HUBBARD, WILLIAM B. The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)

The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)

HUCHRA, J. P. Peculiar Velocities of Field Spiral Galaxies near and beyond the Great Attractor. *Gregory D. Bothun, Robert A. Schommer, T. B. Williams, Jeremy R. Mould, & J. P. Huchra.* 388, 253, 53-D10 (1992)

See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

HUCHRA, JOHN. The Spatial Distribution of Active Galactic Nuclei. I. The Density of Seyfert Galaxies and Liners. *John Huchra & Richard Burg.* 393, 90, 115-C1 (1992)

HUCHRA, JOHN P. The Distribution of Galaxies within the "Great Wall." *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 384, 396, 7-B7 (1992)

The Distribution of Nearby Rich Clusters of Galaxies. *Marc Postman, John P. Huchra, & Margaret J. Geller.* 384, 404, 7-C1 (1992)

A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

The Density Evolution of *IRAS* Galaxies. *Karl B. Fisher, Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 389, 188, 62-C11 (1992)

Large-Scale Clustering of Galaxies in the CfA Redshift Survey. *Michael S. Vogeley, Changbom Park, Margaret J. Geller, & John P. Huchra.* 391, L5, 91-G1 (1992)

The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)

A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)

HUCKE, S. Propagation Conditions of Relativistic Electrons in the Inner Heliosphere. *M.-B. Kallenrode, G. Wibberenz, & S. Hucke.* 394, 351, 132-C11 (1992)

HUDSON, REGGIE L. Far-Infrared Spectral Studies of Phase Changes in Water Ice Induced by Proton Irradiation. *Mala H. Moore & Reggie L. Hudson.* 401, 353, 225-D5 (1992)

HUFNAGEL, BETH R. Optical and Radio Variability in Blazars. *Beth R. Hufnagel & Joel N. Bregman.* 386, 473, 31-C5 (1992)

HUGGINS, P. J. CO in the Cometary Globules of the Helix Nebula. *P. J. Huggins, R. Bachiller, P. Cox, & T. Forveille.* 401, L43, 227-F7 (1992)

HUGHES, J. P. A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

HUGHES, JOHN P. Semiempirical Limits on the Thermal Conductivity of Intracluster Gas. *Laurence P. David, John P. Hughes, & Wallace H. Tucker.* 394, 452, 135-A7 (1992)

The X-Ray Spectrum of Abell 665. *John P. Hughes & Yasuo Tanaka.* 398, 62, 182-G1 (1992)

HUGHES, P. A. The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

HUGHES, S. M. G. OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

HUMECKI, H. J. Combined Infrared and Analytical Electron Microscope Studies of Interplanetary Dust Particles. *J. P. Bradley, H. J. Humecki, & M. S. Germani.* 394, 643, 137-D8 (1992)

HUMMER, D. G. The Sobolev Approximation for Line Formation with Partial Frequency Redistribution. *D. G. Hummer & G. B. Rybicki.* 387, 248, 40-A10 (1992)

HUMPHREYS, ROBERTA M. Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)

HUNTER, C. Triaxial Galaxy Models with Thin Tube Orbits. *C. Hunter & P. T. de Zeeuw.* 389, 79, 61-B1 (1992)

HUNTER, DEIDRE A. Small Galactic H II Regions. III. Images and Spectrophotometry of the Ionized Gas. *Deidre A. Hunter.* 79, 469, 20-C13 (1992)

Supergiant Filaments of Ionized Gas in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 391, L9, 91-G7 (1992)

HUNTER, S. D. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

HURFORD, G. J. Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

Measurement of the Solar Limb Brightness Profile at 3 Millimeters during the Total Eclipse of 1991 July 11. *L. Belkora, G. J. Hurford, Dale E. Gary, & D. P. Woody.* 400, 692, 219-B1 (1992)

HURLEY, K. Gamma-Ray Bursts and Radio Pulsar Glitches. *D. Hartmann, K. Hurley, & M. Niel.* 387, 622, 46-D1 (1992)

HURT, ROBERT L. ^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)

HURWITZ, MARK. The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

HUT, PIET. The Evolution of a Primordial Binary Population in a Globular Cluster. *Piet Hut, Steve McMillan, & Roger W. Romani.* 389, 527, 68-A8 (1992)

HUTCHINGS, J. B. *Hubble Space Telescope* Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

HYLAND, A. R. OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

IBÁÑEZ, JOSÉ Mª. Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José Mª. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

IBÁÑEZ S., MIGUEL H. Propagation of Sound and Thermal Waves in a Plasma with Solar Abundances. *Miguel H. Ibáñez S., & Néstor M. Sánchez D.* 396, 717, 166-C1 (1992)

On the Thermal Structure and Stability of Configurations with Heat Diffusion and a Gain-Loss Function. I. General Results. *Miguel H. Ibáñez S., Antonio Parravano, & César A. Mendoza B.* 398, 177, 184-B1 (1992)

IBEN, ICKO, JR. On Mass-Transfer Rates in Classical Nova Precursors. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 384, 580, 9-D1 (1992)

The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)

Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)

Rare Thermonuclear Explosions in Short-Period Cataclysmic Variables, with Possible Application to the Nova-like Red Variable in the Galaxy M31. *Icko Iben, Jr., & Alexander V. Tutukov.* 389, 369, 64-E1 (1992)

Self-consistent Models of Wolf-Rayet Stars as Helium Stars with Optically Thick Winds. *Mariko Kato & Icko Iben, Jr.* 394, 305, 131-F13 (1992)

Light-Curve Analysis of Classical Novae. *Mariko Kato & Icko Iben, Jr.* 394, L47, 139-C7 (1992)

Constraints on Element Mixing in Classical Novae. *Masayuki Y. Fujimoto & Icko Iben, Jr.* 399, 646, 206-A1 (1992)

ICHIKAWA, T. Hubble Flows in the Pisces-Perseus Region from the Giovanelli-Haynes Galaxy Sample. *T. Ichikawa & M. Fukugita.* 394, 61, 128-G5 (1992)

ICHIMARU, S. Pycnonuclear Reaction Rates for Binary Ionic Mixtures. *S. Ichimaru, S. Ogata, & H. M. Van Horn.* 401, L35, 227-E7 (1992)

IGA, SAYURI. Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

IGLESIAS, CARLOS A. Radiative Atomic Rosseland Mean Opacity Tables. *Forrest J. Rogers & Carlos A. Iglesias.* 79, 507, 20-G11 (1992)

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

Spin-Orbit Interaction Effects on the Rosseland Mean Opacity. *Carlos A. Iglesias, Forrest J. Rogers, & Brian G. Wilson.* 397, 717, 180-A7 (1992)

Rosseland Mean Opacities for Variable Compositions. *Forrest J. Rogers & Carlos A. Iglesias.* 401, 361, 225-E1 (1992)

IIJIMA, YUTAKA. Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

IKEBE, Y. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies. *Y. Ikebe, T. Ohashi, K. Makishima, T. Tsuru, G. Fabbiano, D.-W. Kim, G. Trinchieri, I. Hatsukade, K. Yamashita, & H. Kondo.* 384, L5, 6-B1 (1992)

IKEUCHI, SATORU. Quasar Absorption Lines with a Nonzero Cosmological Constant. *Edwin L. Turner & Satoru Ikeuchi.* 389, 478, 67-D7 (1992)

Formation of a Giant Galactic Gaseous Halo: Metal Absorption Lines and High-Velocity Clouds. *Fan Li & Satoru Ikeuchi.* 390, 405, 80-D7 (1992)

ILLINGWORTH, GARTH. NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)

IMAMURA, JAMES N. Noise-driven Radiative Shocks. II. Further Implications for the Quasi-periodic Oscillations of the AM Herculis Objects. *Kent S. Wood, James N. Imamura, & Michael T. Wolff.* 398, 593, 191-E1 (1992)

IMPEY, C. D. Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

INAGAKI, SHOGO. Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

INFANTE, L. Angular Correlation Function of Faint Galaxies. *C. J. Pritchet & L. Infante.* 399, L35, 200-C13 (1992)

The CFHT North Galactic Pole Faint Galaxy Survey. *L. Infante & C. J. Pritchet.* 83, 237, 61-B1 (1992)

INGROSSO, G. Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

INOUE, H. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

Ginga Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

INUTSUKA, SHU-ICHIRO. Self-similar Solutions and the Stability of Collapsing Isothermal Filaments. *Shu-ichiro Inutsuka & Shoken M. Miyama.* 388, 392, 55-C1 (1992)

IPAVICH, F. M. Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE*. *R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

IPSER, JAMES R. On the Pulsations of Relativistic Accretion Disks and Rotating Stars: The Cowling Approximation. *James R. Ipser & Lee Lindblom.* 389, 392, 64-G1 (1992)

IRSMAMBETOVA, T. R. Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

IRWIN, ALAN W. γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)

IRWIN, JUDITH A. Warm Molecular Gas in the Nucleus of IC 342: The CO ($J = 3 \rightarrow 2$) Distribution. *Judith A. Irwin & L. W. Avery.* 388, 328, 54-D7 (1992)

Outflowing Molecular Gas in NGC 3079. *Judith A. Irwin & Yoshiaki Sofue.* 396, L75, 167-B1 (1992)

ISENSEE, JOAN E. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

ISERN, J. Axion Cooling of White Dwarfs. *J. Isern, M. Hernanz, & E. Garcia-Berro.* 392, L23, 106-D1 (1992)

ISERN, JORDI. The Quasi-static Evolution of ONeMg Cores: Explosive Ignition Densities and the Collapse/Explosion Alternative. *Ramon Canal, Jordi Isern, & Javier Labay.* 398, L49, 187-G7 (1992)

ISHIDA, M. H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

ISHIGURO, M. Aperture Synthesis CO (J = 3–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

ISHIGURO, MASATO. Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Nondetected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)

ISHIKAWA, SHIN-ICHI. Detection of Isocyanoacetylene HCCNC in TMC-1. *Kentarou Kawaguchi, Masatoshi Ohishi, Shin-ichi Ishikawa, & Norio Kaifu.* 386, L51, 36-C10 (1992)

A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).

See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

ISHIZUKI, S. Aperture Synthesis CO (J = 3–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

ISHIZUKI, SUMIO. Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Nondetected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)

ISOBE, TAKASHI. Far-Infrared Luminosity Functions of Normal Galaxies. *Takashi Isobe & Eric D. Feigelson.* 79, 197, 16-F3 (1992)

ISRAELIT, MARK. Newton's Laws in a Cosmological Model. *Mark Israelit & Nathan Rosen.* 400, 21, 209-C7 (1992)

ITO, K. High-Resolution Photoabsorption Cross Sections of $E^1\Pi$–$X^1\Sigma^+$ Vibrational Bands of ^{12}CO and ^{13}CO. *G. Stark, P. L. Smith, K. Ito, & K. Yoshino.* 395, 705, 152-B5 (1992)

ITOH, MAKOTO. Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and N-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

ITOH, NAOKI. The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)

Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)

IWASAWA, KAZUSHI. Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

IWATA, T. The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

IYENGAR, K. V. K. Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

IZUMIURA, H. High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

JACKSON, JAMES M. A Survey for Extragalactic HCN and HCO^+. *Nguyen-Q-Rieu, James M. Jackson, Christian Henkel, Truong-Bach, & Rainer Mauersberger.* 399, 521, 204-D1 (1992)

JACKSON, N. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

JACKSON, P. D. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

JACOBY, GEORGE. Stellar Wind Paleontology. II. Faint Halos and Historical Mass Ejection in Planetary Nebulae. *Bruce Balick, Guillermo Gonzalez, Adam Frank, & George Jacoby.* 392, 582, 109-D11 (1992)

JACOBY, GEORGE H. Planetary Nebulae as Standard Candles. VIII. Evidence for a Change in the Luminosity Function Cutoff at Low Metallicity. *Robin Ciardullo & George H. Jacoby.* 388, 268, 53-F1 (1992)

A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

JÄNDEL, MAGNUS. A Solvable Model of Fusion Rates in Dense Stars. *Magnus Jändel & Mikael Sahrling.* 393, 679, 124-C5 (1992)

JAFFE, D. T. Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

A Survey of CS $J = 7 \rightarrow 6$ in Regions of Massive Star Formation. *René Plume, D. T. Jaffe, & Neal J. Evans II.* 78, 505, 9-F5 (1992)

JAHODA, K. M. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

JAHODA, KEITH. Cross-Correlation of the X-Ray Background with Nearby Galaxies: Erratum. *Keith Jahoda, Ofer Lahav, Richard F. Mushotzky, & Elihu Boldt.* 399, L107, 201-E8 (1992) (Orig. paper in 378, L37, 162-D7 (1991))

JAKOBSEN, P. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

JAKOBSEN, PETER. Observations of 10 Faint Quasar Candidates in the Field of the Tololo 1037–2703/1038–2712 Quasar Pair. *Peter Jakobsen & M. A. C. Perryman.* 392, 432, 107-F3 (1992)

JAMINET, P. A. Submillimeter Line Observations of the Proto–Planetary Nebula CRL 2688. *P. A. Jaminet, W. C. Danchi, Göran Sandell, & E. C. Sutton.* 400, 535, 217-A7 (1992)

JANIS, ALLEN I. The Magnitude-Redshift Relation. *Allen I. Janis.* 385, 391, 18-B1 (1992)

JANKULAK, MICHAEL. An RR Lyrae Period Shift in Terms of the Fourier Parameter ϕ_{31}. *Christine M. Clement, Michael Jankulak, & Norman R. Simon.* 395, 192, 142-E9 (1992)

JANNUZI, BUELL T. The Ultraviolet Absorption Spectrum of the Quasar H1821+643 (z = 0.297). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

Faint Object Spectrograph Observations of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, George F. Hartig, Buell T. Jannuzi, Dan Maoz, & Donald P. Schneider.* 400, L51, 220-C1 (1992)

JANSSEN, M. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

JANSSEN, M. A. See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

JARANOWSKI, PIOTR. Detectability of the Gravitational Wave Signal from a Close Neutron Star Binary with Mass Transfer. *Piotr Jaranowski & Andrzej Krolak.* 394, 586, 136-F1 (1992)

JAROSZYŃSKI, M. Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)

JAUNCEY, D. See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.

JEDRZEJEWSKI, R. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

JEFFERIES, J. T. Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

JEFFERIES, S. M. Scattering of p-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)

Local Acoustic Diagnostics of the Solar Interior. *D. C. Braun, C. A. Lindsey, Y. Fan, & S. M. Jefferies.* 392, 739, 111-D7 (1992)

JEFFERY, DAVID J. Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

JENKINS, E. B. Interstellar Absorption along the Line of Sight to Theta Carinae Using *Copernicus* Observations. *M. M. Allen, E. B. Jenkins, & T. P. Snow.* 83, 261, 61-D1 (1992)

JENKINS, EDWARD B. Dense Clumps of Ionized Gas near π Scorpii, as Revealed by the Fine-Structure Excitation of N II. *Frank Bertoldi & Edward B. Jenkins.* 388, 495, 56-D9 (1992)

See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

JENKINS, T. See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

JENNINGS, DONALD E. Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

JENNINGS, RICHARD L. Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

JENSEN, J. B. The Age of the Small Magellanic Cloud Cluster Lindsay 11. *J. R. Mould, J. B. Jensen, & G. S. Da Costa.* 82, 489, 55-E11 (1992)

JERNIGAN, GARRETT. Mid-Infrared Imaging of Markarian 231 and Arp 220. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 387, L17, 43-B13 (1992)

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

JERNIGAN, J. GARRETT. Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89−0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

JING, Y. P. On the Error Estimates of Correlation Functions. *H. J. Mo, Y. P. Jing, & G. Börner.* 392, 452, 107-G13 (1992)

JING, YI-PENG. Clustering of Galaxy Clusters. I. Is the Spatial Cluster-Cluster Correlation Function Enhanced Significantly by Contaminations? *Yi-Peng Jing, Manolis Plionis, & Riccardo Valdarnini.* 389, 499, 67-F3 (1992)

JING, YIPENG. The Angular Three-Point Function of Galaxy Clusters. *Stefano Borgani, Yipeng Jing, & Manolis Plionis.* 395, 339, 146-D5 (1992)

JING, YI-PENG. Clustering of Galaxy Clusters. II. Rare Events in the Cluster Distribution. *Manolis Plionis, Riccardo Valdarnini, & Yi-Peng Jing.* 398, 12, 182-C1 (1992)

JOBLIN, C. Contribution of Polycyclic Aromatic Hydrocarbon Molecules to the Interstellar Extinction Curve. *C. Joblin, A. Léger, & P. Martin.* 393, L79, 127-F1 (1992)

JOG, CHANDA J. A Triggering Mechanism for Enhanced Star Formation in Colliding Galaxies. *Chanda J. Jog & P. M. Solomon.* 387, 152, 38-G6 (1992)

Swing Amplification of Nonaxisymmetric Perturbations in Stars and Gas in a Sheared Galactic Disk. *Chanda J. Jog.* 390, 378, 80-B1 (1992)

Starbursts Triggered by Central Overpressure in Interacting Galaxies. *Chanda J. Jog & Mousumi Das.* 400, 476, 216-C1 (1992)

JOHNS, J. W. C. See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

JOHNSON, C. W. The Fate of ^{7}Be in the Sun. *C. W. Johnson, E. Kolbe, S. E. Koonin, & K. Langanke.* 392, 320, 105-A1 (1992)

JOHNSON, HOLLIS R. Ionization and Excitation in Cool Giant Stars. I. Hydrogen and Helium. *Donald G. Luttermoser & Hollis R. Johnson.* 388, 579, 57-D7 (1992)

JOHNSON, W. N. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

The ^{57} Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

JOHNSTON, HELEN M. Deep VLA Images of Globular Clusters: NGC 6624. *Helen M. Johnston & Shrinivas R. Kulkarni.* 393, L17, 120-C8 (1992)

Spectroscopy of the Recurrent Nova U Scorpii. *Helen M. Johnston & Shrinivas R. Kulkarni.* 396, 267, 158-D4 (1992)

JOHNSTON, K. J. The Distribution of the 6_2–6_1 and 5_2–5_1 E-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

High Spatial Resolution 1.3 Centimeter Imaging of the NGC 2024 Star-forming Region. *R. A. Gaume, K. J. Johnston, & T. L. Wilson.* 388, 489, 56-D1 (1992)

JOHNSTON, KENNETH J. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

JOHNSTON, SIMON. PSR 1259−63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

PSR J1341−6220: A Young Pulsar in a Supernova Remnant. *Victoria M. Kaspi, R. N. Manchester, Simon Johnston, A. G. Lyne, & N. D'Amico.* 399, L155, 208-D5 (1992)

JOKIPII, J. R. Constraints on the Acceleration of Anomalous Cosmic Rays. *J. R. Jokipii.* 393, L41, 120-F8 (1992)

Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

Viscous and Inertial Effects at Cosmic-Ray Shocks. *J. R. Jokipii & L. L. Williams.* 394, 184, 130-C8 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

JONCAS, G. The Sharpless 187 Gas Complex: A Multifrequency Study. *G. Joncas, D. Durand, & R. S. Roger.* 387, 591, 46-A9 (1992)
A High-Resolution 21 Centimeter Line Study of Infrared Cirrus. *G. Joncas, F. Boulanger, & P. E. Dewdney.* 397, 165, 170-A10 (1992)
JONES, B. 12 and 20 Micron Imaging of the Starburst Galaxy NGC 253. *R. K. Piña, B. Jones, R. C. Puetter, & W. A. Stein.* 401, L75, 233-A5 (1992)
JONES, C. X-Ray Properties of Bright Far-Infrared Galaxies. *L. P. David, C. Jones, & W. Forman.* 388, 82, 50-B4 (1992)
A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)
Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)
JONES, CHRISTINE. A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)
JONES, D. L. See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.
JONES, GORDON. A Catalog of Co-added *IRAS* Fluxes of Orion Population Stars. *Wm. Bruce Weaver & Gordon Jones.* 78, 239, 4-G7 (1992)
JONES, MARK H. *Ginga* Observations of the Dipping Low-Mass X-Ray Binaries XB 1916−053 and EXO 0748−676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)
JONES, PAUL A. The Structure of Southern Extragalactic Radio Sources. *Paul A. Jones & W. Bruce McAdam.* 80, 137, 24-C3 (1992)
JONES, RODNEY V. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)
The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)
JONES, T. J. The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)
JONES, T. W. Acoustic Instability in Cosmic-Ray Mediated Shocks. *Hyesung Kang, T. W. Jones, & Dongsu Ryu.* 385, 193, 14-D1 (1992)
Cosmic-Ray–modified Supernova Remnant Shocks. *T. W. Jones & Hyesung Kang.* 396, 575, 164-E9 (1992)
JONES, TERRY J. The Peculiar, Fast Nova Herculis 1991. *Charles E. Woodward, R. D. Gehrz, Terry J. Jones, & G. F. Lawrence.* 384, L41, 11-C1 (1992)
Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)
The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)
JONES, TERRY JAY. Infrared Polarimetry and the Galactic Magnetic Field. II. Improved Models. *Terry Jay Jones, Dimitri Klebe, & John M. Dickey.* 389, 602, 69-A1 (1992)
JORDAN, C. Fe II Emission Lines. II. Excitation Mechanisms in Cool Stars. *P. G. Judge, C. Jordan, & U. Feldman.* 384, 613, 9-F10 (1992)
JOSEPH, R. D. The He I λ2.06 Microns/Brγ Ratio in Starburst Galaxies—An Objective Constraint on the Upper Mass Limit to the Initial Mass Function. *René Doyon, P. J. Puxley, & R. D. Joseph.* 397, 117, 169-D9 (1992)
JOSEPH, ROBERT D. Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)
JOSS, P. C. Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)
JOURDAIN, E. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.
A New Hard X-Ray Source 15′ Away from 3C 273? *E. Jourdain, L. Bassani, J. P. Roques, P. Mandrou, J. Ballet, A. Claret, A. Goldwurm, F. Lebrun, A. Finogenov, E. Churazov, M. Gilfanov, R. Sunyaev, A. Dyachkov, N. Khavenson, B. Novikov, & N. Kuleshova.* 395, L69, 153-F6 (1992)
See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.
JOY, M. The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)
JUDGE, P. G. The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)
Fe II Emission Lines. II. Excitation Mechanisms in Cool Stars. *P. G. Judge, C. Jordan, & U. Feldman.* 384, 613, 9-F10 (1992)
JUNG, G. V. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.
JUNG, YOUNG-DAE. L-Shell X-Ray Opacity of Many-Electron Atoms. *Young-Dae Jung & Robert J. Gould.* 391, 403, 91-A7 (1992)
A Simple Correction for the Born Approximation for Electron Impact Excitation of Hydrogenic Ions. *Young-Dae Jung.* 396, 725, 166-C11 (1992)
JUNKKARINEN, V. A Catalog of Absorption in the Spectra of Quasi-stellar Objects: Erratum (Orig. paper in 77, 203, 47-B1 (1991)). *V. Junkkarinen, A. Hewitt, & G. Burbidge.* 81, 409, 40-F5 (1992) (Orig. paper in 77, 203, 47-B1 (1991))
JUNKKARINEN, VESA T. Detection of Ca II Absorption in the QSO 0958+559 Due to a Heiles Shell in NGC 3079. *Donna S. Womble, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 388, 55, 49-G1 (1992)
Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)
See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226−1024.
JURA, M. Short- and Intermediate-Period Oxygen-rich Miras. *M. Jura & S. G. Kleinmann.* 79, 105, 14-D3 (1992)
Oxygen-rich Semiregular and Irregular Variables. *M. Jura & S. G. Kleinmann.* 83, 329, 62-D5 (1992)
JUSTTANONT, K. Mass Loss from OH/IR Stars: Models for the Infrared Emission of Circumstellar Dust Shells. *K. Justtanont & A. G. G. M. Tielens.* 389, 400, 64-G10 (1992)
The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)
Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)
JUSZKIEWICZ, R. Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

KÄPPELER, F. A Measurement of the $^{14}C(n,\gamma)^{15}C$ Cross Section at a Stellar Temperature of kT = 23.3 keV. *Hermann Beer, M. Wiescher, F. Käppeler, J. Görres, & P. E. Koehler.* 387, 258, 40-B8 (1992)
Measurement of the $^{76}Se(n,\gamma)$ Capture Cross Section and Phenomenological *s*-Process Studies: The Weak Component. *Hermann Beer, G. Walter, & F. Käppeler.* 389, 784, 71-B1 (1992)
Origin of ^{180m}Ta and the Temperature of the *s*-Process. *Zs. Németh, F. Käppeler, & G. Reffo.* 392, 277, 104-D7 (1992)
KAFATOS, M. Fe II Fluorescence and Anomalous C IV Doublet Intensities in Symbiotic Novae. *A. G. Michalitsianos, M. Kafatos, & S. R. Meier.* 389, 649, 69-D12 (1992)
KAHLER, S. W. Microwave Transition Radiation in Solar Flares and in Astrophysics. *G. D. Fleishman & S. W. Kahler.* 394, 688, 138-A11 (1992)
KAHN, STEVEN M. X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A.*

Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein. 391, 306, 89-F11 (1992)

KAIFU, NORIO. Detection of Isocyanoacetylene HCCNC in TMC-1. *Kentarou Kawaguchi, Masatoshi Ohishi, Shin-ichi Ishikawa, & Norio Kaifu.* 386, L51, 36-C10 (1992)

A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).

See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

KAISER, NICK. Weak Gravitational Lensing of Distant Galaxies. *Nick Kaiser.* 388, 272, 53-F7 (1992)

KAISIG, M. Magnetic Interchange Instability of Accretion Disks. *M. Kaisig, T. Tajima, & R. V. E. Lovelace.* 386, 83, 25-B7 (1992)

KAITA, E. See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

KALENSKII, S. V. The Detection of a New, Nonmasing Transition of Methanol at 28.3 GHz. *V. I. Slysh, S. V. Kalenskii, & I. E. Val'tts.* 397, L43, 173-F3 (1992)

KALLENRODE, M.-B. Composition and Azimuthal Spread of Solar Energetic Particles from Impulsive and Gradual Flares. *M.-B. Kallenrode, E. W. Cliver, & G. Wibberenz.* 391, 370, 90-D12 (1992)

Propagation Conditions of Relativistic Electrons in the Inner Heliosphere. *M.-B. Kallenrode, G. Wibberenz, & S. Hucke.* 394, 351, 132-C11 (1992)

KALLRATH, J. Modeling of the Eclipsing Binaries in the Globular Cluster NGC 5466. *J. Kallrath, E. F. Milone, & C. R. Stagg.* 389, 590, 68-G1 (1992)

KAMAE, T. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

KAMEYA, O. The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

KAMEYA, OSAMU. Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)

KAMPERMAN, T. M. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

KANAAN, A. The Discovery of a New DAV Star Using *IUE* Temperature Determination. *A. Kanaan, S. O. Kepler, O. Giovannini, & M. Diaz.* 390, L89, 85-B7 (1992)

See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

KANBACH, G. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

KANDRUP, HENRY E. On the Sensitivity of the *N*-Body Problem to Small Changes in Initial Conditions. II. *Henry E. Kandrup & Haywood Smith, Jr.* 386, 635, 33-C1 (1992)

On the Sensitivity of the *N*-Body Problem to Small Changes in Initial Conditions. III. *Henry E. Kandrup, Haywood Smith, Jr., & David E. Willmes.* 399, 627, 205-F9 (1992)

KANE, S. R. Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)

KANG, HYESUNG. Acoustic Instability in Cosmic-Ray Mediated Shocks. *Hyesung Kang, T. W. Jones, & Dongsu Ryu.* 385, 193, 14-D1 (1992)

Radiative Shocks and Hydrogen Molecules in Pregalactic Gas: The Effects of Postshock Radiation. *Hyesung Kang & Paul R. Shapiro.* 386, 432, 30-F13 (1992)

Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

Cosmic-Ray–modified Supernova Remnant Shocks. *T. W. Jones & Hyesung Kang.* 396, 575, 164-E9 (1992)

A Comparison of Models for Supernova Remnants Including Cosmic Rays. *Hyesung Kang & L. O'C. Drury.* 399, 182, 197-D11 (1992)

KARACHENTSEV, I. D. The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

KARTJE, J. F. Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

KASAI, M. Statistical Properties of Gravitational Lenses with a Nonzero Cosmological Constant. *M. Fukugita, T. Futamase, M. Kasai, & E. L. Turner.* 393, 3, 114-B4 (1992)

KASHLINSKY, A. The Coherence Length of the Peculiar Velocity Field in the Universe and the Large-Scale Galaxy Correlation Data. *A. Kashlinsky.* 386, L37, 36-B6 (1992)

Constraints on the Power Spectrum of the Primordial Density Field from Large-Scale Data: Microwave Background and Predictions of Inflation. *A. Kashlinsky.* 387, L1, 43-A8 (1992)

The Great Wall in the CfA Survey: Its Origin and Imprint on the Microwave Background Radiation. *F. Atrio-Barandela & A. Kashlinsky.* 390, 322, 79-C1 (1992)

Latest *COBE* Results, Large-Scale Data, and Predictions of Inflation. *A. Kashlinsky.* 399, L1, 199-G1 (1992)

KASHYAP, V. Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

KASPI, V. M. PSR 1259–63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

KASPI, VICTORIA M. Long-Term Pulsar Flux Monitoring and Refractive Interstellar Scintillation. *Victoria M. Kaspi & Daniel R. Stinebring.* 392, 530, 108-G8 (1992)

PSR J1341–6220: A Young Pulsar in a Supernova Remnant. *Victoria M. Kaspi, R. N. Manchester, Simon Johnston, A. G. Lyne, & N. D'Amico.* 399, L155, 208-D5 (1992)

KASSIOLA, AGGELIKI. Multiple Quasars with Large Magnitude Differences: Extreme Magnification by Gravitational Lenses? *Aggeliki Kassiola & Israel Kovner.* 388, 33, 49-D10 (1992)

On the Straight Arc in Abell 2390. *Aggeliki Kassiola, Israel Kovner, & Roger D. Blandford.* 396, 10, 155-C1 (1992)

Perturbations of Cluster Cusps by Galaxies: The Triple Arc in Cl 0024+1654. *Aggeliki Kassiola, Israel Kovner, & Bernard Fort.* 400, 41, 209-E1 (1992)

KASTNER, JOEL H. The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)

Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

Mass-Loss Rates for *IRAS*-bright Red Giants: A Revised Model of Circumstellar CO Emission. *Joel H. Kastner.* 401, 337, 225-B11 (1992)

KASTNER, S. O. The Optically Thick C III Spectrum. I. Term Populations and Multiplet Intensities at Lower Optical Depths. *A. K. Bhatia & S. O. Kastner.* 79, 139, 14-G3 (1992)
On the Calculation of Atomic Term Populations. *S. O. Kastner & A. K. Bhatia.* 398, 698, 192-F11 (1992)
Photon Escape Probabilities from Resolved Sources: Application to Solar C III Limb Emission. *S. O. Kastner & A. K. Bhatia.* 401, 416, 226-C1 (1992)
KASUGA, TAKASHI. Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)
KATO, MARIKO. Self-consistent Models of Wolf-Rayet Stars as Helium Stars with Optically Thick Winds. *Mariko Kato & Icko Iben, Jr.* 394, 305, 131-F13 (1992)
Light-Curve Analysis of Classical Novae. *Mariko Kato & Icko Iben, Jr.* 394, L47, 139-C7 (1992)
KATZ, J. I. Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)
Radiation Transfer in Gamma-Ray Bursts. *B. J. Carrigan & J. I. Katz.* 399, 100, 196-D6 (1992)
KATZ, NEAL. Cooling and the Longevity of Polar Rings. *Neal Katz & Hans-Walter Rix.* 389, L55, 73-C3 (1992)
Dissipational Galaxy Formation. II. Effects of Star Formation. *Neal Katz.* 391, 502, 94-B7 (1992)
Dynamical Evolution of Highly Inclined Rings. *Dimitris M. Christodoulou, Neal Katz, Hans-Walter Rix, & Asao Habe.* 395, 113, 141-E1 (1992)
Galaxies and Gas in a Cold Dark Matter Universe. *Neal Katz, Lars Hernquist, & David H. Weinberg.* 399, L109, 207-F1 (1992)
KAUFFMANN, GUINEVERE. The Void Spectrum in Two-dimensional Numerical Simulations of Gravitational Clustering. *Guinevere Kauffmann & Adrian L. Melott.* 393, 415, 121-B1 (1992)
KAULA, WILLIAM M. Numerical Models for the Collapse and Fragmentation of Centrally Condensed Molecular Cloud Cores. *Elizabeth A. Myhill & William M. Kaula.* 386, 578, 32-E4 (1992)
KAUS, P. E. Dynamical Model of the Magnetic Field of Neutron Stars. *F. W. Cummings, D. D. Dixon, & P. E. Kaus.* 386, 215, 26-G3 (1992)
KAVENSON, N. See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).
KAWABATA, KIYOSHI. Methane Band Photometry of the Faded South Equatorial Belt of Jupiter. *Takehiko Satoh & Kiyoshi Kawabata.* 384, 298, 4-F1 (1992)
KAWABE, R. Aperture Synthesis CO (J = 3–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)
KAWABE, RYOHEI. Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Nondetected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)
KAWAGUCHI, KENTAROU. Detection of Isocyanoacetylene HCCNC in TMC-1. *Kentarou Kawaguchi, Masatoshi Ohishi, Shin-ichi Ishikawa, & Norio Kaifu.* 386, L51, 36-C10 (1992)
See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).
Detection of HNCCC in TMC-1. *Kentarou Kawaguchi, Shuro Takano, Masatoshi Ohishi, Shin-ichi Ishikawa, Keisuke Miyazawa, Norio Kaifu, Koichi Yamashita, Satoshi Yamamoto, Shuji Saito, Yasuhiro Ohshima, & Yasuki Endo.* 396, L49, 161-A1 (1992)
KAWAI, N. X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)
KAWAZOE, EIKO. On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)
KAY, LAURA. Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)
KAY, LAURA E. Detection of Obscured Broad-Line Regions in Four Seyfert 2 Galaxies. *Hien D. Tran, Joseph S. Miller, & Laura E. Kay.* 397, 452, 176-C12 (1992)
KAZÈS, ILYA. The Tully-Fisher Relation for the CO Line. *John M. Dickey & Ilya Kazès.* 393, 530, 122-D5 (1992)
KAZHDAN, YA. M. Shock Wave Emergence at the Stellar Surface and the Subsequent Gas Expansion into a Vacuum: The Sphericity Involvement. *Ya. M. Kazhdan & Marina Murzina.* 400, 192, 211-C9 (1992)
KEEGSTRA, P. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.
See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.
See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.
KEEL, WILLIAM C. Deep *Hubble Space Telescope* Imaging of a Compact Radio Galaxy at z = 2.390. *Rogier Windhorst, Douglas F. Mathis, & William C. Keel.* 400, L1, 214-A8 (1992)
KEENAN, F. P. Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observatio... *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)
Al II Emission-Line Strengths in Low-Density Astrophysical Plasmas. *F. P. Keenan, L. K. Harra, K. M. Aggarwal, & W. A. Feibelman.* 385, 375, 16-E1 (1992)
Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)
C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)
Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)
The Oscillator Strength of the Si II $3s^2 3p\ ^2P$–$3s3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)
Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)
Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)
Improved Calculations for the C III λλ1907,1909 and Si III λλ1883,1892 Electron Density Sensitive Emission-Line Ratios, and a Comparison with *IUE* Observations. *F. P. Keenan, W. A. Feibelman, & K. A. Berrington.* 389, 443, 65-D5 (1992)
X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)
Hot Post–Asymptotic Giant Branch Stars at High Galactic Latitudes. *R. J. H. McCausland, E. S. Conlon, P. L. Dufton, & F. P. Keenan.* 394, 298, 131-F5 (1992)
The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)
Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)
KEENE, JOCELYN. Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)
Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)
Interstellar H_3O^+ and Its Relation to the O_2 and H_2O Abundances. *T. G. Phillips, Ewine F. van Dishoeck, & Jocelyn Keene.* 399, 533, 204-E1 (1992)
Circumprotostellar Environments. I. Molecular Outflows from Protostar Candidates in Taurus. *G. H. Moriarty-Schieven, P. G. Wannier, M. Tamura, & Jocelyn Keene.* 400, 260, 212-B10 (1992)
KELLER, JOHN W. Electron Energy Loss Spectra of Polycyclic Aromatic Hydrocarbons. *John W. Keller, M. A. Coplan, & R. Goruganthu.* 391, 872, 98-G1 (1992)
KELLEY, R. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

KELLY, DOUGLAS. Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin 1989c_1. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)

KELLY, DOUGLAS M. Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

Near-Infrared Observations of AFGL 618. II. The Atomic Spectrum. *Douglas M. Kelly, William B. Latter, & G. H. Rieke.* 395, 174, 142-D1 (1992)

KELSALL, T. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

KENDZIORRA, E. See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

KENNELLY, E. J. τ Pegasi: A Fourier Representation of Line-Profile Variations. *E. J. Kennelly, G. A. H. Walker, & William J. Merryfield.* 400, L71, 220-E8 (1992)

KENNEY, JEFFREY D. P. Cospatial Counterrotating Stellar Disks in the Virgo E7/S0 Galaxy NGC 4550. *Vera C. Rubin, J. A. Graham, & Jeffrey D. P. Kenney.* 394, L9, 133-B7 (1992)

Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

KENNICUTT, R. C., JR. An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

KENNICUTT, ROBERT C., JR. The Integrated Spectra of Nearby Galaxies: General Properties and Emission-Line Spectra. *Robert C. Kennicutt, Jr.* 388, 310, 54-C1 (1992)

A Spectrophotometric Atlas of Galaxies. *Robert C. Kennicutt, Jr.* 79, 255, 17-F7 (1992)

KENNY, H. T. VLBI Observations of the X-Ray Binary LS I +61°303. *A. R. Taylor, H. T. Kenny, R. E. Spencer, & A. Tzioumis.* 395, 268, 143-D11 (1992)

KENNY, PETER J. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

KENT, S. M. Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

Galactic Structure from the Spacelab Infrared Telescope. III. A Dynamical Model for the Milky Way Bulge. *S. M. Kent.* 387, 181, 39-B12 (1992)

KENYON, SCOTT J. On the Origin of Submillimeter Emission from Young Stars in Taurus-Auriga. *Mary Barsony & Scott J. Kenyon.* 384, L53, 11-D1 (1992)

The Secondary Outburst Maximum of T Coronae Borealis: Implications for the Physics of Accretion Disks. *John K. Cannizzo & Scott J. Kenyon.* 386, L17, 29-C7 (1992)

Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

KEPLER, S. O. The Discovery of a New DAV Star Using *IUE* Temperature Determination. *A. Kanaan, S. O. Kepler, O. Giovannini, & M. Diaz.* 390, L89, 85-B7 (1992)

See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

KERRICK, ALAN D. Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

KERSWELL, RICHARD. Equilibrium of a Magnetic Flux Tube in a Compressible Flow. *Richard Kerswell & Stephen Childress.* 385, 746, 22-D1 (1992)

KESTEVEN, M. J. G308.8–0.1: An Unusual Supernova Remnant Containing a Short-Period Pulsar, PSR J1341–6220. *J. L. Caswell, M. J. Kesteven, R. T. Stewart, D. K. Milne, & R. F. Haynes.* 399, L151, 208-D1 (1992)

KETO, ERIC. Mid-Infrared Imaging of Markarian 231 and Arp 220. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 387, L17, 43-B13 (1992)

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89–0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

KHAVENSON, N. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731–260.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

KIDDER, K. M. The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

KIDGER, M. R. Intermediate-Resolution Spectropolarimetry of 3C 273. *J. A. de Diego, E. Pérez, M. R. Kidger, & L. O. Takalo.* 396, L19, 160-D10 (1992)

KII, T. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

KILKENNY, DAVID. First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

KILLEEN, N. E. B. Zeeman Measurements of the Magnetic Fields at the Galactic Center. *N. E. B. Killeen, K. Y. Lo, & R. Crutcher.* 385, 585, 20-D6 (1992)

KIM, D.-W. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

An X-Ray Catalog and Atlas of Galaxies. *G. Fabbiano, D.-W. Kim, & G. Trinchieri.* 80, 531, 31-A11 (1992)

The X-Ray Spectra of Galaxies. I. Spectral Fits of Individual Galaxies and X-Ray Colors. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 80, 645, 32-D7 (1992)

The X-Ray Spectra of Galaxies. II. Average Spectral Properties and Emission Mechanisms. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 393, 134, 115-F12 (1992)

KIM, S.-H. See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

KIM, SOON-WOOK. Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)

Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei: Erratum. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 399, 330, 199-E1 (1992) (Orig. paper in 384, 269, 4-C7 (1992))

KIM, Y.-C. Standard Solar Model. *D. B. Guenther, P. Demarque, Y.-C. Kim, & M. H. Pinsonneault.* 387, 372, 41-E9 (1992)

Standard Solar Model. II. g-Modes. *D. B. Guenther, P. Demarque, M. H. Pinsonneault, & Y.-C. Kim.* 392, 328, 105-A10 (1992)

KIMBLE, R. A. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

KIMBLE, RANDY A. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

KING, ANDREW R. Low-Mass X-Ray Binary Evolution and the Origin of Millisecond Pulsars. *Juhan Frank, Andrew R. King, & Jean-Pierre Lasota.* 385, L45, 23-C8 (1992)

KING, E. A. See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.

KING, I. R. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31. *I. R. King, J. M. Deharveng, R. Albrecht, C. Barbieri, J. C. Blades, A. Boksenberg, P. Crane, M. J. Disney, P. Jakobsen, T. M. Kamperman, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, W. B. Sparks, & S. A. Stanford.* 397, L35, 173-E5 (1992)

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

KINGSTON, A. E. Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)

Excitation Rate Coefficients for Transitions among the $n = 1$, 2, and 3 Levels of He^+. *K. M. Aggarwal, J. Callaway, A. E. Kingston, & K. Unnikrishnan.* 80, 473, 28-G13 (1992)

X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)

KINNEY, A. L. Lyman-Alpha Emission in Star-forming Galaxies: Low-Redshift Counterparts of Primeval Galaxies? *D. Calzetti & A. L. Kinney.* 399, L39, 200-D5 (1992)

Search for Partial Systemic Lyman Edges in Nearby Quasars. *A. P. Koratkar, A. L. Kinney, & R. C. Bohlin.* 400, 435, 215-F9 (1992)

KINNEY, ANNE. The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

KINZER, R. L. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

KIPLINGER, A. L. Characteristics of Hard X-Ray Spectra of Impulsive Solar Flares. *G. A. Dulk, A. L. Kiplinger, & R. M. Winglee.* 389, 756, 70-F11 (1992)

KIPLINGER, ALAN L. Coordinated Spectral and Temporal Hα Observations of a Solar Flare. *J.-F. de La Beaujardière, Alan L. Kiplinger, & Richard C. Canfield.* 401, 761, 232-A5 (1992)

KIRK, J. G. Diffusive Acceleration of Electrons in SN 1987A. *Lewis Ball & J. G. Kirk.* 396, L39, 160-G1 (1992)

KIRSHNER, R. P. Properties of the SN 1987A Circumstellar Ring and the Distance to the Large Magellanic Cloud: Erratum. *N. Panagia, R. Gilmozzi, F. Macchetto, H.-M. Adorf, & R. P. Kirshner.* 386, L31, 29-E1 (1992) (Orig. paper in 380, L23, 181-D1 (1991))

KIRSHNER, ROBERT P. Six Balmer-dominated Supernova Remnants: Erratum. *R. Chris Smith, Robert P. Kirshner, William P. Blair, & P. Frank Winkler.* 384, 665, 10-D1 (1992) (Orig. paper in 375, 652, 120-G1 (1991))

Expanding Photospheres of Type II Supernovae and the Extragalactic Distance Scale. *Brian P. Schmidt, Robert P. Kirshner, & Ronald G. Eastman.* 395, 366, 146-G7 (1992)

Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

KITAMOTO, SHUNJI. Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)

The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

X-Ray Spectrum and Time Variation of X1850−087 in the Globular Cluster NGC 6712. *Shunji Kitamoto, Hiroshi Tsunemi, & Diane Roussel-Dupre.* 391, 220, 88-F7 (1992)

Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

Discovery and X-Ray Properties of GS 1124−683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)

KITAMURA, YOSHIMI. On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)

KIZILOĞLU, ÜMIT. *ROSAT* Observations of PSR 0656+14: A Pulsating and Cooling Neutron Star. *John P. Finley, Hakki Ögelman, & Ümit Kiziloğlu.* 394, L21, 133-C13 (1992)

KLEBE, DIMITRI. Infrared Polarimetry and the Galactic Magnetic Field. II. Improved Models. *Terry Jay Jones, Dimitri Klebe, & John M. Dickey.* 389, 602, 69-A1 (1992)

KLEBESADEL, R. W. Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)

The Spatial Distribution of Gamma-Ray Bursts from *Pioneer Venus Orbiter*. *K. W. Chuang, R. S. White, R. W. Klebesadel, & J. G. Laros.* 391, 242, 89-A4 (1992)

KLECKER, B. The Energy Spectra of Solar Flare Hydrogen, Helium, Oxygen, and Iron: Evidence for Stochastic Acceleration. *J. E. Mazur, G. M. Mason, B. Klecker, & R. E. McGuire.* 401, 398, 226-A5 (1992)

KLEIN, RICHARD I. A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

KLEINE, MARVIN. Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin $1989c_1$. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)

KLEINMAN, S. J. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

KLEINMANN, S. G. Short- and Intermediate-Period Oxygen-rich Miras. *M. Jura & S. G. Kleinmann.* 79, 105, 14-D3 (1992)

Oxygen-rich Semiregular and Irregular Variables. *M. Jura & S. G. Kleinmann.* 83, 329, 62-D5 (1992)

KLEVA, ROBERT G. Enhanced Damping of Alfvén Waves in the Solar Corona by a Turbulent Wave Spectrum. *Robert G. Kleva & J. F. Drake.* 395, 697, 152-A5 (1992)

KLEY, W. Two-dimensional Viscous Accretion Disk Models. I. On Meridional Circulations in Radiative Regions. *W. Kley & D. N. C. Lin.* 397, 600, 178-D13 (1992)

KLIMCHUK, J. A. The Practical Application of the Magnetic Virial Theorem. *J. A. Klimchuk, R. C. Canfield, & J. E. Rhoads.* 385, 327, 16-A1 (1992)

Three-dimensional Force-free Magnetic Fields and Flare Energy Buildup. *J. A. Klimchuk & P. A. Sturrock.* 385, 344, 16-B6 (1992)

KLIMCHUK, JAMES A. Cylindrically Symmetric Force-free Magnetic Fields. *Lisa J. Porter, James A. Klimchuk, & Peter A. Sturrock.* 385, 738, 22-C6 (1992)

KLOPMAN, Z. The Formation of Magnetic Cavities in Comets. *Z. Klopman, A. Eviatar, & R. Goldstein.* 394, 652, 137-E10 (1992)

KLYPIN, ANATOLY A. Filamentary and Hierarchical Pictures: Kinetic Energy Criterion. *Anatoly A. Klypin & Adrian L. Melott.* 399, 397, 203-A1 (1992)

KNAPEN, JOHAN H. Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

KNAPP, G. R. The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

Molecular Gas in Elliptical Galaxies: Erratum. *Joanna F. Lees, G. R. Knapp, Michael P. Rupen, & T. G. Phillips.* 396, 741, 166-E1 (1992) (Orig. paper in 379, 177, 165-B11 (1991))

Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)

KNIFFEN, D. A. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

Galactic Gamma-Ray Emission from Radio Pulsars. *M. Bailes & D. A. Kniffen.* 391, 659, 96-C1 (1992)

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

KNOBLOCH, E. Enhancement of Diffusive Transport in Oscillatory Flows. *E. Knobloch & W. J. Merryfield.* 401, 196, 223-E3 (1992)

KNÖLKER, M. Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

KOBAYASHI, Y. Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

KOBULNICKY, HENRY A. Superhump Timing in SU Ursae Majoris Systems: Implications of the Data for the Precessing Disk Model. *Lawrence A. Molnar & Henry A. Kobulnicky.* 392, 678, 110-F3 (1992)

KOCH, D. Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

KOCH, T. C. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

KOCH, TIMOTHY. A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

KOCHANEK, CHRISTOPHER S. Do the Redshifts of Gravitational Lens Galaxies Rule Out a Large Cosmological Constant? *Christopher S. Kochanek.* 384, 1, 1-A11 (1992)

The Dynamical Evolution of Tidal Capture Binaries. *Christopher S. Kochanek.* 385, 604, 20-E13 (1992)

Gravitational Lenses in Redshift Surveys. *Christopher S. Kochanek.* 397, 381, 175-D6 (1992)

Coalescing Binary Neutron Stars. *Christopher S. Kochanek.* 398, 234, 184-F7 (1992)

LensClean: An Algorithm for Inverting Extended, Gravitationally Lensed Images with Application to the Radio Ring Lens PKS 1830−211. *Christopher S. Kochanek & Ramesh Narayan.* 401, 461, 228-D8 (1992)

KOEHLER, P. E. A Measurement of the $^{14}C(n,\gamma)^{15}C$ Cross Section at a Stellar Temperature of $kT = 23.3$ keV. *Hermann Beer, M. Wiescher, F. Käppeler, J. Görres, & P. E. Koehler.* 387, 258, 40-B8 (1992)

KOESTER, D. The White Dwarf Companion to PSR 0820+02. *D. Koester, G. Chanmugam, & D. Reimers.* 395, L107, 154-C7 (1992)

KOFMAN, LEV. Knots in Stellar Jets from Time-dependent Sources. *A. C. Raga & Lev Kofman.* 386, 222, 27-A1 (1992)

Modeling Structures of Knots in Jet Flows with the Burgers Equation. *Lev Kofman & A. C. Raga.* 390, 359, 79-F5 (1992)

Coherent Structures in the Universe and the Adhesion Model. *Lev Kofman, Dmitri Pogosyan, Sergei F. Shandarin, & Adrian L. Melott.* 393, 437, 121-D1 (1992)

KOFMAN, LEV A. A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

KOGUT, A. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

COBE Differential Microwave Radiometers: Preliminary Systematic Error Analysis. *A. Kogut, G. F. Smoot, C. L. Bennett, E. L. Wright, J. Aymon, G. De Amici, G. Hinshaw, P. D. Jackson, E. Kaita, P. Keegstra, C. Lineweaver, K. Loewenstein, L. Rokke, L. Tenorio, N. W. Boggess, E. S. Cheng, S. Gulkis, M. G. Hauser, M. A. Janssen, T. Kelsall, J. C. Mather, S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, R. F. Silverberg, R. Weiss, & D. T. Wilkinson.* 401, 1, 221-B1 (1992)

KOHL, JOHN L. On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

KOHYAMA, YASUHARU. Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)

KOLBE, E. The Fate of ^{7}Be in the Sun. *C. W. Johnson, E. Kolbe, S. E. Koonin, & K. Langanke.* 392, 320, 105-A1 (1992)

Strange Quark Contributions to the Nucleon and Neutrino Nucleosynthesis. *E. Kolbe, K. Langanke, S. Krewald, & F. K. Thielemann.* 401, L89, 233-C1 (1992)

KOLLATSCHNY, W. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

KONDO, H. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

KONDO, Y. Newly Identified Main-Sequence A Stars with Circumstellar Dust. *K.-P. Cheng, F. C. Bruhweiler, Y. Kondo, & C. A. Grady.* 396, L83, 167-C1 (1992)

KONDO, YOJI. The Orbital Parameters and the *IUE* Spectrum of the Single-lined Spectroscopic Binary HD 698. *Jorge Sahade, Rodolfo Barbá, & Yoji Kondo.* 81, 303, 39-B1 (1992)

KOO, BON-CHUL. Dynamics of Wind Bubbles and Superbubbles. I. Slow Winds and Fast Winds. *Bon-Chul Koo & Christopher F. McKee.* 388, 93, 50-C1 (1992)

Dynamics of Wind Bubbles and Superbubbles. II. Analytic Theory. *Bon-Chul Koo & Christopher F. McKee.* 388, 103, 50-C12 (1992)

Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

KOONIN, S. E. The Fate of ^{7}Be in the Sun. *C. W. Johnson, E. Kolbe, S. E. Koonin, & K. Langanke.* 392, 320, 105-A1 (1992)

Pycnonuclear Triple-α Fusion Rates. *S. Schramm, K. Langanke, & S. E. Koonin.* 397, 579, 178-B12 (1992)

KOPKO, MICHAEL, JR. See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226−1024.

KOPP, G. Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

KORATKAR, A. P. Search for Partial Systemic Lyman Edges in Nearby Quasars. *A. P. Koratkar, A. L. Kinney, & R. C. Bohlin.* 400, 435, 215-F9 (1992)

KORATKAR, ANURADHA P. Seyfert Galaxy Ultraviolet Emission-Line Intensities and Variability: A Self-consistent Photoionization Analysis Applied to Broad-Line–emitting Gas in NGC 3783. *Anuradha P. Koratkar & Gordon M. MacAlpine.* 401, 110, 222-D3 (1992)

KORISTA, K. T. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

KORISTA, KIRK T. The Broad Emission-Line Profiles and Profile Variability of the Seyfert 1 Galaxy Arakelian 120. *Kirk T. Korista.* 79, 285, 18-C7 (1992)

The Broad Emission Line Profiles and Profile Variability of the Seyfert 1 Galaxy Arakelian 120: Erratum. *Kirk T. Korista.* 82, 445, 55-G5 (1992) (Orig. paper in 79, 285, 18-C7 (1992))

Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)

Hubble Space Telescope Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226−1024. *Kirk T. Korista, Ray J. Weymann, Simon L. Morris, Michael Kopko, Jr., David A. Turnshek, George F. Hartig, Craig B. Foltz, E. Margaret Burbidge, & Vesa T. Junkkarinen.* 401, 529, 229-C1 (1992)

KORMENDY, JOHN. The Nonthermal Nucleus of M87. *John Kormendy.* 388, L9, 52-B1 (1992)

Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)

KORYCANSKY, D. G. An Off-Center Point Explosion in a Radially Stratified Medium: Kompaneets Approximation. *D. G. Korycansky.* 398, 184, 184-B9 (1992)

Growth and Decay of Disturbances in Stratified Shear Flow in a Rotating Frame. *D. G. Korycansky.* 399, 176, 197-D3 (1992)

KOSOVICHEV, ALEXANDER. Localized Excitation of Solar Oscillations. *Philip R. Goode, Douglas Gough, & Alexander Kosovichev.* 387, 707, 47-E1 (1992)

KOUCHI, A. Extremely Low Thermal Conductivity of Amorphous Ice: Relevance to Comet Evolution. *A. Kouchi, J. M. Greenberg, T. Yamamoto, & T. Mukai.* 388, L73, 59-D9 (1992)

KOUVELIOTOU, C. Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

KOVETZ, ATTAY. Classical Nova Models with Accretion Heating at Accretion Rates of 10^{-9} and 10^{-10} $M_\odot$ per Year. *Dina Prialnik & Attay Kovetz.* 385, 665, 21-D1 (1992)

KOVNER, ISRAEL. Multiple Quasars with Large Magnitude Differences: Extreme Magnification by Gravitational Lenses? *Aggeliki Kassiola & Israel Kovner.* 388, 33, 49-D10 (1992)

On the Straight Arc in Abell 2390. *Aggeliki Kassiola, Israel Kovner, & Roger D. Blandford.* 396, 10, 155-C1 (1992)

Perturbations of Cluster Cusps by Galaxies: The Triple Arc in Cl 0024+1654. *Aggeliki Kassiola, Israel Kovner, & Bernard Fort.* 400, 41, 209-E1 (1992)

KOVTUNENKO, V. See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

KOWALSKI, M. P. Clusters in Collision? *M. P. Ulmer, G. D. Wirth, & M. P. Kowalski.* 397, 430, 176-A9 (1992)

KOYAMA, K. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

KOYAMA, KATSUJI. X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

KOZLOWSKI, BEN ZION. Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)

KOZMA, CECILIA. Gamma-Ray Deposition and Nonthermal Excitation in Supernovae. *Cecilia Kozma & Claes Fransson.* 390, 602, 82-G1 (1992)

KRAFT, R. P. The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V. Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

KRAUSE, M. Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)

KRAUSS, LAWRENCE M. Gravitational Lensing, Finite Galaxy Cores, and the Cosmological Constant. *Lawrence M. Krauss & Martin White.* 394, 385, 134-B1 (1992)

Gravitational Lensing and the Variability of *G. Lawrence M. Krauss & Martin White.* 397, 357, 175-B4 (1992)

KREIDL, T. J. Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

KREMNEV, R. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

KREWALD, S. Strange Quark Contributions to the Nucleon and Neutrino Nucleosynthesis. *E. Kolbe, K. Langanke, S. Krewald, & F. K. Thielemann.* 401, L89, 233-C1 (1992)

KREYSA, E. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

KRINSKY, I. S. Two-Stream, Second-Order, Probabilistic Radiative Transfer. *I. S. Krinsky & R. C. Puetter.* 393, 716, 124-F10 (1992)

The Stability of QSO/AGN Broad Emission Line Clouds. *I. S. Krinsky & R. C. Puetter.* 394, 472, 135-C1 (1992)

KRISS, G. A. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151. *G. A. Kriss, A. F. Davidsen, William P. Blair, C. W. Bowers, W. V. Dixon, S. T. Durrance, P. D. Feldman, H. C. Ferguson, R. C. Henry, R. A. Kimble, J. W. Kruk, Knox S. Long, H. W. Moos, & O. Vancura.* 392, 485, 108-C10 (1992)

KRISS, GERARD A. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068: Erratum. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 397, L127, 181-F12 (1992) (Orig. paper in 394, L37, 139-B7 (1992))

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

KROEGER, R. A. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

KROLAK, ANDRZEJ. Detectability of the Gravitational Wave Signal from a Close Neutron Star Binary with Mass Transfer. *Piotr Jaranowski & Andrzej Krolak.* 394, 586, 136-F1 (1992)

KROLIK, JULIAN H. Magnetized Stimulated Scattering in Pulsar Winds. *Mark W. Sincell & Julian H. Krolik.* 395, 553, 149-F7 (1992)

Radiation-Pressure–supported Obscuring Tori around Active Galactic Nuclei. *Edward A. Pier & Julian H. Krolik.* 399, L23, 200-B8 (1992)

Infrared Spectra of Obscuring Dust Tori around Active Galactic Nuclei. I. Calculational Method and Basic Trends. *Edward A. Pier & Julian H. Krolik.* 401, 99, 222-C5 (1992)

KRONBERG, P. P. Activity and Radio Spectral Index Variations near the Center of the Crab Nebula. *M. F. Bietenholz & P. P. Kronberg.* 393, 206, 116-F1 (1992)

KRONBERG, PHILIPP P. Discovery of Extended Faraday Rotation Compatible with Spiral Structure in an Intervening Galaxy at $z = 0.395$: New Observations of PKS 1229−021. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 387, 528, 45-C1 (1992)

KRUK, J. W. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

KRUK, JEFFREY W. See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

KUCERA, T. Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

KUCHAREK, H. Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)

KULESHOVA, N. See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

KULKARNI, SHRINIVAS R. Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

Star Formation and the Distribution of H I and Infrared Emission in M51. *Richard J. Rand, Shrinivas R. Kulkarni, & W. Rice.* 390, 66, 74-G9 (1992)

Deep VLA Images of Globular Clusters: NGC 6624. *Helen M. Johnston & Shrinivas R. Kulkarni.* 393, L17, 120-C8 (1992)

Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

Spectroscopy of the Recurrent Nova U Scorpii. *Helen M. Johnston & Shrinivas R. Kulkarni.* 396, 267, 158-D4 (1992)

KULSRUD, R. M. On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

KULSRUD, RUSSELL M. The Spectrum of Random Magnetic Fields in the Mean Field Dynamo Theory of the Galactic Magnetic Field. *Russell M. Kulsrud & Stephen W. Anderson.* 396, 606, 165-A1 (1992)

KUMMERER, R. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

KUNC, J. A. Maximum Principal Quantum Numbers of the Atomic Hydrogen in the Solar Chromosphere and Photosphere. *J. A. Kunc & W. H. Soon.* 396, 364, 159-E11 (1992)

KUNDU, M. R. Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

High Dynamic Range Multifrequency Radio Observations of a Solar Active Region. *S. M. White, M. R. Kundu, & N. Gopalswamy.* 78, 599, 11-A13 (1992)

Estimation of the Mass of a Coronal Mass Ejection from Radio Observations. *N. Gopalswamy & M. R. Kundu.* 390, L37, 78-F1 (1992)

KUNIEDA, H. The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

KUNIEDA, HIDEYO. X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)

KURFESS, J. D. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A. *J. D. Kurfess, W. N. Johnson, R. L. Kinzer, R. A. Kroeger, M. S. Strickman, J. E. Grove, M. D. Leising, D. D. Clayton, D. A. Grabelsky, W. R. Purcell, M. P. Ulmer, R. A. Cameron, & G. V. Jung.* 399, L137, 208-B7 (1992)

The ^{57} Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

KURKI-SUONIO, HANNU. Relation of Redshift Surveys to Matter Distribution in Spherically Symmetric Dust Universes. *Hannu Kurki-Suonio & Edison Liang.* 390, 5, 74-B7 (1992)

KURTZ, D. W. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

KURTZ, MICHAEL J. The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

KURUCZ, R. L. The Eclipsing Binary AI Phoenicis: New Results Based on an Improved Light Curve Analysis Program. *E. F. Milone, C. R. Stagg, & R. L. Kurucz.* 79, 123, 14-E11 (1992)

KUSUNOSE, MASAAKI. Geometrically Thin, Hot Accretion Disks: Topology of the Thermal Equilibrium Curves. *Masaaki Kusunose & Shin Mineshige.* 392, 653, 110-D1 (1992)

KUZNETSOV, A. See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

KWAN, JOHN. Comment on Red Giant Envelopes as Broad Emission-Line Clouds in Active Galactic Nuclei. *John Kwan, F. Z. Cheng, & Zongwei Li.* 393, 87, 115-B9 (1992)

The Determination of Dust Mass in Galaxies. *John Kwan & Shuding Xie.* 398, 105, 183-C7 (1992)

KWOK, P. W. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

KWOK, S. Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)

KWOK, SUN. The Spectra of IC 418 and IC 5117 from 1.5 to 1.75 Microns. *C. Y. Zhang & Sun Kwok.* 385, 255, 15-B1 (1992)

Candidates for Extreme Carbon Stars. *Kevin Volk, Sun Kwok, & Philip P. Langill.* 391, 285, 89-D12 (1992)

KYLAFIS, NIKOLAOS D. Compton Scattering in a Converging Fluid Flow: Spherical Near-critical Accretion onto Neutron Stars. *Apostolos Mastichiadis & Nikolaos D. Kylafis.* 384, 136, 2-F7 (1992)

Interacting H_2O Masers in Star-forming Regions. *Nikolaos D. Kylafis & Konstantinos G. Pavlakis.* 400, 344, 213-B12 (1992)

LABAY, JAVIER. The Quasi-static Evolution of ONeMg Cores: Explosive Ignition Densities and the Collapse/Explosion Alternative. *Ramon Canal, Jordi Isern, & Javier Labay.* 398, L49, 187-G7 (1992)

LABELLE, J. Band Splitting in Solar Type II Radio Bursts. *R. A. Treumann & J. LaBelle.* 399, L167, 208-E7 (1992)

LABONTE, B. J. Scattering of p-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)

LACHIEZE-REY, M. A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

LACHIÈZE-REY, MARC. Void Probability Function in the Southern Sky Redshift Survey. *Marc Lachièze-Rey, Luiz Nicolaci da Costa, & Sophie Maurogordato.* 399, 10, 195-B13 (1992)

LACIS, ANDREW A. The Abundance and Distribution of Water Vapor in the Jovian Troposphere as Inferred from *Voyager* IRIS Observations. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 388, 648, 58-C7 (1992)

Ortho-para-Hydrogen Equilibration on Jupiter. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 393, 357, 118-E6 (1992)

On the Inclusion of the Hydrogen Dimer in the Analysis of *Voyager* IRIS Spectra. *Barbara E. Carlson, Qiancheng Ma, & Andrew A. Lacis.* 394, L29, 133-D10 (1992)

LACY, J. H. The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

LADA, CHARLES J. Interpreting Infrared Color-Color Diagrams: Circumstellar Disks around Low- and Intermediate-Mass Young Stellar Objects. *Charles J. Lada & Fred C. Adams.* 393, 278, 117-E12 (1992)

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

LADA, ELIZABETH A. Global Star Formation in the L1630 Molecular Cloud. *Elizabeth A. Lada.* 393, L25, 120-D7 (1992)

The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)

LAHAV, O. The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

LAHAV, OFER. The Topology of Large-Scale Structure. V. Two-dimensional Topology of Sky Maps. *J. Richard Gott III, Shude Mao, Changbom Park, & Ofer Lahav.* 385, 26, 12-D1 (1992)

See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

Biasing and Distribution Functions for Different Galaxy Types in Optical and *IRAS* Catalogs. *Ofer Lahav & William C. Saslaw.* 396, 430, 162-G1 (1992)

Cross-Correlation of the X-Ray Background with Nearby Galaxies: Erratum. *Keith Jahoda, Ofer Lahav, Richard F. Mushotzky, & Elihu Boldt.* 399, L107, 201-E8 (1992) (Orig. paper in 378, L37, 162-D7 (1991))

LAKE, KAYLL. An Inhomogeneous Slab Cosmology. *Kayll Lake.* 401, L1, 227-A7 (1992)

LAKHTAKIA, AKHLESH. General Theory of the Purcell-Pennypacker Scattering Approach and Its Extension to Bianisotropic Scatterers. *Akhlesh Lakhtakia.* 394, 494, 135-E1 (1992)

LALLEMENT, R. Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)

LAMB, D. Q. Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

LAMB, FREDERICK K. Energy Dependence of Normal Branch Quasi-periodic Intensity Oscillations in Low-Mass X-Ray Binaries. *Guy S. Miller & Frederick K. Lamb.* 388, 541, 57-A5 (1992)

LAMB, R. C. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.

LAMB, SUSAN A. A Model for Ring Galaxies: Arp 147–like Systems. *Richard A. Gerber, Susan A. Lamb, & Dinshaw S. Balsara.* 399, L51, 200-E10 (1992)

LAMBERT, D. L. Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)

LAMBERT, DAVID L. The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

Carbon, Nitrogen, and Oxygen Abundances in Early B-Type Stars. *Douglas R. Gies & David L. Lambert.* 387, 673, 47-B1 (1992)

The Chemical Composition of Magellanic Cloud Cepheids and Nonvariable Supergiants. *R. Earle Luck & David L. Lambert.* 79, 303, 18-E3 (1992)

Fractionation of CO in the Diffuse Clouds toward ζ Ophiuchi. *Yaron Sheffer, S. R. Federman, David L. Lambert, & Jason A. Cardelli.* 397, 482, 176-G3 (1992)

Chemical Evolution of the Orion Association. I. The Oxygen Abundance of Main-Sequence B Stars. *Katia Cunha & David L. Lambert.* 399, 586, 205-B7 (1992)

The Abundance of Boron in Three Halo Stars. *Douglas K. Duncan, David L. Lambert, & Michael Lemke.* 401, 584, 229-G6 (1992)

LAME, N. J. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

LAMERS, H. J. G. L. M. *Hubble Space Telescope* Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

LAMING, J. M. A Burst Model for Line Emission in the Solar Atmosphere. I. XUV Lines of He I and He II in Impulsive Flares. *J. M. Laming & U. Feldman.* 386, 364, 28-F8 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

LAMONTAGNE, ROBERT. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

LAMPHIER, C. A Huge H I Cloud near a Galaxy Pair. *G. Lyle Hoffman, E. E. Salpeter, C. Lamphier, & T. Roos.* 388, L5, 52-A11 (1992)

LANDI DEGL'INNOCENTI, EGIDIO. Electron Impact Polarization of Atomic Spectral Lines. I. A General Theoretical Scheme. *Silvano Fineschi & Egidio Landi Degl'Innocenti.* 392, 337, 105-B6 (1992)

LANDOLT, ARLO U. The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

LANDSMAN, WAYNE B. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

The Ultraviolet-bright Stars of Omega Centauri, M3, and M13. *Wayne B. Landsman, Robert W. O'Connell, Jonathan H. Whitney, Ralph C. Bohlin, Robert S. Hill, Stephen P. Maran, Ronald A. Parise, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L21, 144-F9 (1992)

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

LANDSTREET, JOHN D. A Homogeneous Catalog of New *UBV* and Hβ Photometry of B- and A-Type Stars in and around the Scorpius-Centaurus OB Association. *Robert W. Slawson, Robert J. Hill, & John D. Landstreet.* 82, 117, 50-E9 (1992)

LANDY, STEPHEN D. A General Analytical Solution to the Problem of Malmquist Bias Due to Lognormal Distance Errors. *Stephen D. Landy & Alexander S. Szalay.* 391, 494, 94-A11 (1992)

Large-Scale Radial Velocity Correlations as a Test of Gaussian Initial Conditions. *Stephen D. Landy & Alexander S. Szalay.* 394, 25, 128-D1 (1992)

LANG, M. J. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.

LANGANKE, K. The Fate of ^{7}Be in the Sun. *C. W. Johnson, E. Kolbe, S. E. Koonin, & K. Langanke.* 392, 320, 105-A1 (1992)
Pycnonuclear Triple-α Fusion Rates. *S. Schramm, K. Langanke, & S. E. Koonin.* 397, 579, 178-B12 (1992)
Strange Quark Contributions to the Nucleon and Neutrino Nucleosynthesis. *E. Kolbe, K. Langanke, S. Krewald, & F. K. Thielemann.* 401, L89, 233-C1 (1992)
LANGDON, A. BRUCE. Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)
Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)
LANGE, A. E. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.
See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.
LANGILL, PHILIP P. Candidates for Extreme Carbon Stars. *Kevin Volk, Sun Kwok, & Philip P. Langill.* 391, 285, 89-D12 (1992)
LANZA, ANTONIO. Self-gravitating Thin Disks around Rapidly Rotating Black Holes. *Antonio Lanza.* 389, 141, 61-G1 (1992)
General Relativistic Structure of Star-Toroid Systems. *Shogo Nishida, Yoshiharu Eriguchi, & Antonio Lanza.* 401, 618, 230-C1 (1992)
LANZETTA, K. M. Lyman-Alpha Emission from the Damped Lyman-Alpha System toward H0836+113. *A. M. Wolfe, D. A. Turnshek, K. M. Lanzetta, & J. B. Oke.* 385, 151, 13-G7 (1992)
Magnetic Fields in Damped Lyα Systems. *A. M. Wolfe, K. M. Lanzetta, & A. L. Oren.* 388, 17, 49-C5 (1992)
LANZETTA, KENNETH M. The Kinematics of Intermediate-Redshift Gaseous Galaxy Halos. *Kenneth M. Lanzetta & David V. Bowen.* 391, 48, 86-E14 (1992)
LAOR, ARI. Accretion Flows near Black Holes Mediated by Radiative Viscosity. *Abraham Loeb & Ari Laor.* 384, 115, 2-D10 (1992)
LA PADULA, C. Variability of the Galactic Center in the Hard X-Ray Range. *A. Bazzano, C. La Padula, P. Ubertini, & R. K. Sood.* 385, L17, 17-C1 (1992)
Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)
Hard X-Ray Observation of Scorpius X-1: Erratum. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 396, 378, 159-G3 (1992) (Orig. paper in 386, 710, 34-B4 (1992))
LAROS, J. G. Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)
The Spatial Distribution of Gamma-Ray Bursts from *Pioneer Venus Orbiter*. *K. W. Chuang, R. S. White, R. W. Klebesadel, & J. G. Laros.* 391, 242, 89-A4 (1992)
LAROSA, T. N. The Thermal and Plasma-physical Evolution of Laminar Current Sheets Formed in the Solar Atmosphere by Emerging Flux. *T. N. LaRosa.* 396, 289, 158-F3 (1992)
LARSON, ANA. γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)
LARSON, STEPHEN. Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin 1989c$_1$. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)
LASOTA, JEAN-PIERRE. Low-Mass X-Ray Binary Evolution and the Origin of Millisecond Pulsars. *Juhan Frank, Andrew R. King, & Jean-Pierre Lasota.* 385, L45, 23-C8 (1992)
LATHAM, DAVID W. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)
LATTANZI, M. G. Catalog-to-Catalog Reductions: Results for the FK, N30, and GC Catalogs. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 392, 746, 111-E9 (1992)
LATTER, WILLIAM B. Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)
Near-Infrared Observations of AFGL 618. II. The Atomic Spectrum. *Douglas M. Kelly, William B. Latter, & G. H. Rieke.* 395, 174, 142-D1 (1992)
LATTIMER, JAMES M. Rapid Cooling of Neutron Stars by Hyperons and Δ Isobars. *Madappa Prakash, Manju Prakash, James M. Lattimer, & C. J. Pethick.* 390, L77, 85-A1 (1992)
LAU, M. M. Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)
LAUER, TOD R. The Hubble Flow from Brightest Cluster Galaxies. *Tod R. Lauer & Marc Postman.* 400, L47, 220-B8 (1992)
LAURENT, P. See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524–62).
LAURENT, PH. See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731–260.
See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.
LAWRENCE, A. An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)
LAWRENCE, ANDREW. PKS 0438–436: A High-Redshift Quasar with Strong X-Ray Absorption. *Belinda J. Wilkes, Martin Elvis, Fabrizio Fiore, Jonathan C. McDowell, Harvey Tananbaum, & Andrew Lawrence.* 393, L1, 120-A9 (1992)
LAWRENCE, C. High Spatial Resolution Continuum and Hα Imaging of the High-Redshift *IRAS* Source FSC 10214+4724. *B. T. Soifer, G. Neugebauer, K. Matthews, C. Lawrence, & J. Mazzarella.* 399, L55, 200-F1 (1992)
LAWRENCE, G. F. The Peculiar, Fast Nova Herculis 1991. *Charles E. Woodward, R. D. Gehrz, Terry J. Jones, & G. F. Lawrence.* 384, L41, 11-C1 (1992)
LAWRENCE, GEOFFREY. Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)
LAYZER, DAVID. On the Origin of Cosmic Structure. *David Layzer.* 392, L5, 106-B1 (1992)
LEACOCK, R. J. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.
LEAHY, D. A. Discovery of X-Ray Emission Associated with the Gum Nebula. *D. A. Leahy, J. Nousek, & G. Garmire.* 385, 561, 20-B4 (1992)
LEBRUN, F. See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524–62).
See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731–260.
See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?
See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.
LECAR, M. The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)
LEDLOW, MICHAEL J. Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)
LE DOURNEUF, M. Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)
LEE, M. A. Propagation of Cosmic-Ray Nuclei in a Diffusing Galaxy with Convective Halo and Thin Matter Disk. *W. R. Webber, M. A. Lee, & M. Gupta.* 390, 96, 75-C3 (1992)

LEE, MYUNG GYOON. The Young Large Magellanic Cloud Cluster NGC 2214 with a Single Supergiant Branch. *Myung Gyoon Lee.* 399, L133, 208-B1 (1992)

LEE, UMIN. Inertial Mode Oscillations of Jupiter. *Umin Lee, Tod E. Strohmayer, & H. M. Van Horn.* 397, 674, 179-D10 (1992)

LEER, EGIL. A Parameter Study of the Two-Fluid Solar Wind. *Ørnulf Sandbæk, Egil Leer, & Thomas E. Holzer.* 400, 362, 213-D8 (1992)

LEES, JOANNA F. The Orbital Structure of Galactic Halos. *Joanna F. Lees & M. Schwarzschild.* 384, 491, 8-C1 (1992)

Molecular Gas in Elliptical Galaxies: Erratum. *Joanna F. Lees, G. R. Knapp, Michael P. Rupen, & T. G. Phillips.* 396, 741, 166-E1 (1992) (Orig. paper in 379, 177, 165-B11 (1991))

LE FÈVRE, O. Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

An Arc System with a Radial Gravitational Image in the Cluster MS 2137−23. *B. Fort, O. Le Fevre, F. Hammer, & M. Cailloux.* 399, L125, 208-A1 (1992)

LÉGER, A. Contribution of Polycyclic Aromatic Hydrocarbon Molecules to the Interstellar Extinction Curve. *C. Joblin, A. Léger, & P. Martin.* 393, L79, 127-F1 (1992)

LEGGETT, S. K. Effective Temperatures of M Dwarfs. *Graham Berriman, Neill Reid, & S. K. Leggett.* 392, L31, 106-D11 (1992)

Infrared Colors of Low-Mass Stars. *S. K. Leggett.* 82, 351, 54-C1 (1992)

Discovery of Two Cool Magnetic White Dwarfs. *P. Bergeron, María-Teresa Ruiz, & S. K. Leggett.* 400, 315, 212-G5 (1992)

LEHÁR, J. The Radio Time Delay in the Double Quasar 0957+561. *J. Lehár, J. N. Hewitt, D. H. Roberts, & B. F. Burke.* 384, 453, 7-G1 (1992)

LEHÁR, JOSEPH. Reconciling the Image Brightness Ratios in the Gravitational Lens System 0957+561. *Samuel R. Conner, Joseph Lehár, & Bernard F. Burke.* 387, L61, 48-B7 (1992)

LEHNERT, MATTHEW D. Multicolor Images of Spatially Resolved Structures around High-Redshift Quasars. *Matthew D. Lehnert, Timothy M. Heckman, Kenneth C. Chambers, & George K. Miley.* 393, 68, 114-G12 (1992)

Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

LEIBOWITZ, ELIA M. The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)

LEIBUNDGUT, BRUNO. Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

A Distance-independent Calibration of the Luminosity of Type Ia Supernovae and the Hubble Constant. *Bruno Leibundgut & Philip A. Pinto.* 401, 49, 221-F1 (1992)

LEIGHLY, KAREN. X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

LEISAWITZ, D. The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J Rickard, F. Verter, M. W. Pound, & D. Leisawitz.* 390, 514, 81-F7 (1992)

LEISAWITZ, DAVID. Infrared Emission from X-Ray and Optically Emitting Regions in the Cygnus Loop Supernova Remnant. *Richard G. Arendt, Eli Dwek, & David Leisawitz.* 400, 562, 217-D1 (1992)

LEISING, M. D. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

LEISING, MARK D. The ^{57} Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

LEITHERER, CLAUS. Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

Deposition of Mass, Momentum, and Energy by Massive Stars into the Interstellar Medium. *Claus Leitherer, Carmelle Robert, & Laurent Drissen.* 401, 596, 230-A6 (1992)

LELLOUCH, EMMANUEL. Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

LEMEN, J. R. Fluid Flow in a Jet and the Ca XIX Line Profiles Observed during Solar Flares. *P. L. Bornmann & J. R. Lemen.* 385, 363, 16-D1 (1992)

LEMKE, MICHAEL. The Abundance of Boron in Three Halo Stars. *Douglas K. Duncan, David L. Lambert, & Michael Lemke.* 401, 584, 229-G6 (1992)

LENZUNI, PAOLO. The Formation of Primordial Degenerate Protostars. *Paolo Lenzuni, David F. Chernoff, & Edwin E. Salpeter.* 393, 232, 117-A11 (1992)

LEPP, S. Carbon Monoxide in SN 1987A. *Weihong Liu, A. Dalgarno, & S. Lepp.* 396, 679, 165-G1 (1992)

LEPP, S. H. Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

LE ROUX, J. A. The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. I. General Effects of the Changing Neutral Sheet over the Period 1985–1990. *M. S. Potgieter & J. A. Le Roux.* 386, 336, 28-D4 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. II. On the Energy Dependence of the Onset of New Modulation in 1987. *J. A. Le Roux & M. S. Potgieter.* 390, 661, 83-E1 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. III. General Energy Dependence. *M. S. Potgieter & J. A. Le Roux.* 392, 300, 104-F5 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. IV. The Role of Heliospheric Neutral Sheet Deformation. *J. A. Le Roux & M. S. Potgieter.* 397, 686, 179-E11 (1992)

LESKE, RICHARD A. The Isotopic Composition of Iron-Group Cosmic Rays. *Richard A. Leske, Barrett Milliken, & Mark E. Wiedenbeck.* 390, L99, 85-C7 (1992)

LESSI, O. Time Series Analysis in Astronomy: An Application to Quasar Variability Studies. *R. Vio, S. Cristiani, O. Lessi, & A. Provenzale.* 391, 518, 94-D5 (1992)

LESTER, D. F. The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

High Angular Resolution Far-Infrared Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, D. F. Lester, & P. M. Harvey.* 389, 338, 64-B7 (1992)

LESTER, DAN F. A 2.18 to 2.28 Micron Study of the Stellar Population in the Nucleus of M82. *Niall I. Gaffney & Dan F. Lester.* 394, 139, 129-F9 (1992)

LESTER, JOHN B. Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

LESTRADE, JEAN-FRANÇOIS. VLBI Survey of ρ Ophiuchi: A Population of Magnetized, Diskless Young Stellar Objects. *Philippe André, Bryan D. Deeney, Robert B. Phillips, & Jean-François Lestrade.* 401, 667, 230-G1 (1992)

LESTRADE, JOHN P. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

LEUNG, CHUN MING. Models of Gas-Grain Chemistry in Dense Interstellar Clouds with Complex Organic Molecules. *Tatsuhiko I. Hasegawa, Eric Herbst, & Chun Ming Leung.* 82, 167, 51-D13 (1992)

LEUNG, HELEN O. A Complete CO Survey of the Cygnus X Region. *Helen O. Leung & P. Thaddeus.* 81, 267, 38-F3 (1992)

LEUNG, P. P. Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

LEVAN, P. D. Spatial Structure in the 10 Micron Spectrum of HD 44179 (The Red Rectangle). *G. L. Grasdalen, G. C. Sloan, & P. D. LeVan.* 384, L25, 6-D1 (1992)

LeVan, Paul D. 8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)

Leventhal, M. On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

Diffuse 0.511 MeV Line Emission and the Distribution of Positron Annihilation in the Galaxy. *J. G. Skibo, R. Ramaty, & M. Leventhal.* 397, 135, 169-F3 (1992)

Levin, Janna J. *COBE* Limits on Explosive Structure Formation Scenarios. *Janna J. Levin, Katherine Freese, & David N. Spergel.* 389, 464, 67-C5 (1992)

Levin, S. A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

Levine, A. X-Ray Scattering and Fluorescence in the Wind of a Massive X-Ray Binary. *W. Lewis, S. Rappaport, A. Levine, & F. Nagase.* 389, 665, 69-F3 (1992)

Levinson, Amir. Inhibition of Electron Thermal Conduction by Electromagnetic Instabilities. *Amir Levinson & David Eichler.* 387, 212, 39-E5 (1992)

Electron Injection in Collisionless Shocks. *Amir Levinson.* 401, 73, 222-A1 (1992)

Levy, E. H. Multiple Periodicities in the Solar Magnetic Field: Possible Origin in a Multiple-Mode Solar Dynamo. *D. W. Boyer & E. H. Levy.* 396, 340, 159-C6 (1992)

Lewin, W. H. G. Simultaneous X-Ray and Radio Observations of GX 5–1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

Lewis, B. M. OH/IR Star Color Mimics. *B. M. Lewis.* 396, 251, 158-B13 (1992)

Lewis, D. A. See O'Flaherty, K. S., et al. A Search for TeV Emission from Cygnus X-3.

Lewis, Geraint F. The Central Velocity Dispersion of the Lensing Galaxy in the Quadruple Lens System Q2237+0305. *Craig B. Foltz, Paul C. Hewett, Rachel L. Webster, & Geraint F. Lewis.* 386, L43, 36-C1 (1992)

Lewis, Roy S. Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

Lewis, W. X-Ray Scattering and Fluorescence in the Wind of a Massive X-Ray Binary. *W. Lewis, S. Rappaport, A. Levine, & F. Nagase.* 389, 665, 69-F3 (1992)

Li, Fan. Formation of a Giant Galactic Gaseous Halo: Metal Absorption Lines and High-Velocity Clouds. *Fan Li & Satoru Ikeuchi.* 390, 405, 80-D7 (1992)

Li, Hongwei. The [O I] λλ6300,6364 Doublet of SN 1987A. *Hongwei Li & Richard McCray.* 387, 309, 40-F12 (1992)

Li, Hui. X-Ray Flashes from M31 Based on Extended Halo Models of Gamma-Ray Bursts. *Hui Li & Edison P. Liang.* 400, L59, 220-D3 (1992)

Li, K. H. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

Li, Peng. Diagnostics of Electron-heated Solar Flare Models. III. Effects of Tapered Loop Geometry and Preheating. *A. Gordon Emslie, Peng Li, & John T. Mariska.* 399, 714, 206-G7 (1992)

Li, Zhi-yun. The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

Li, Zhi-Yun. Electromagnetically Driven Relativistic Jets: A Class of Self-similar Solutions. *Zhi-Yun Li, Tzihong Chiueh, & Mitchell C. Begelman.* 394, 459, 135-B1 (1992)

Li, Zhi-yun. An Axisymmetric Magnetohydrodynamic Model for the Crab Pulsar Wind Bubble. *Mitchell C. Begelman & Zhi-yun Li.* 397, 187, 170-C11 (1992)

Li, Zhi-Yun. Formation of the Dark Bays in the Crab Optical Synchrotron Nebula: Is the Crab Pulsar Wind Bubble Interacting with Its Progenitor's Wind? *Zhi-Yun Li & Mitchell C. Begelman.* 400, 186, 211-C1 (1992)

Li, Zongwei. Comment on Red Giant Envelopes as Broad Emission-Line Clouds in Active Galactic Nuclei. *John Kwan, F. Z. Cheng, & Zongwei Li.* 393, 87, 115-B9 (1992)

Liang, Edison. Relation of Redshift Surveys to Matter Distribution in Spherically Symmetric Dust Universes. *Hannu Kurki-Suonio & Edison Liang.* 390, 5, 74-B7 (1992)

Liang, Edison P. X-Ray Flashes from M31 Based on Extended Halo Models of Gamma-Ray Bursts. *Hui Li & Edison P. Liang.* 400, L59, 220-D3 (1992)

Libbrecht, K. G. On the Ultimate Accuracy of Solar Oscillation Frequency Measurements. *K. G. Libbrecht.* 387, 712, 47-E7 (1992)

Liboff, Richard L. Charged Particle Creation in the Steady State Universe. *Richard L. Liboff.* 384, 12, 1-B10 (1992)

The Continuum Model in Astrophysics. *Richard L. Liboff.* 390, 1, 74-B1 (1992)

Generalized Newtonian Force Law and Hidden Mass. *Richard L. Liboff.* 397, L71, 180-G1 (1992)

Liebert, James. A Spectroscopic Determination of the Mass Distribution of DA White Dwarfs. *P. Bergeron, Rex A. Saffer, & James Liebert.* 394, 228, 130-G5 (1992)

Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)

On the Pulsational Stability of the Pre–White Dwarf Star PG 1707+427. *Albert D. Grauer, Richard F. Green, & James Liebert.* 399, 686, 206-D7 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

Liedahl, Duane A. X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)

Lieu, R. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays. *R. Lieu, J. J. Quenby, S. D. Sidher, T. J. Sumner, R. Willingale, R. G. West, A. W. Harris, S. L. Snowden, & K. Bickert.* 397, 158, 170-A1 (1992)

Liffman, Kurt. ^{26}Al and Time Scales of the Solar Nebula. *Kurt Liffman.* 398, L111, 194-F1 (1992)

Likkel, Lauren. High Spatial Resolution Maps of Circumstellar SiC_2 in IRC +10216. *P. D. Gensheimer, Lauren Likkel, & L. E. Snyder.* 388, L31, 52-C11 (1992)

BIMA Observations of HCO^+ Emission from the Planetary Nebula NGC 7027. *Lauren Likkel.* 397, L115, 181-E6 (1992)

Lilje, Per B. Abundance of Rich Clusters of Galaxies: A Test for Cosmological Parameters. *Per B. Lilje.* 386, L33, 36-B1 (1992)

Lilly, S. J. Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

Lim, Jeremy. First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

Lim, Paul H. The Perihelion Problem in Kaluza-Klein Gravity. *Paul H. Lim & Paul S. Wesson.* 397, L91, 181-B8 (1992)

Limon, M. A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

Limongi, Marco. The Contribution of Advanced Post-Hayashi Track Evolutionary Phases to the Ultraviolet Light of Elliptical Galaxies. *Marco Castellani, Marco Limongi, & Amedeo Tornambè.* 389, 227, 62-G1 (1992)

Lin, D. N. C. Tidal Evolution of Globular Clusters. I. Method. *K. S. Oh, D. N. C. Lin, & S. J. Aarseth.* 386, 506, 31-F4 (1992)

Tidal Evolution of Globular Clusters. II. The Effects of Galactic Tidal Field and Diffusion. *K. S. Oh & D. N. C. Lin.* 386, 519, 31-G5 (1992)

Young Globular Clusters in the Milky Way Galaxy. *D. N. C. Lin & Harvey B. Richer.* 388, L57, 59-C1 (1992)

Spectral Evolution of Accretion Disks of Dwarf Novae. III. Outburst Cycle of SS Cygni. *F. H. Cheng & D. N. C. Lin.* 389, 714, 70-C5 (1992)

Possible Observational Consequences of Primordial Binaries in Globular Clusters. *Ronald E. Taam & D. N. C. Lin.* 390, 440, 80-G6 (1992)

Two-dimensional Viscous Accretion Disk Models. I. On Meridional Circulations in Radiative Regions. *W. Kley & D. N. C. Lin.* 397, 600, 178-D13 (1992)

LIN, DOUGLAS N. C. The Formation of Coronal Regions in Accretion Disks. *Stephen D. Murray & Douglas N. C. Lin.* 384, 177, 3-B9 (1992)

Star Formation in Protogalactic Clouds. *Douglas N. C. Lin & Stephen D. Murray.* 394, 523, 135-G8 (1992)

Globular Cluster Formation: The Fossil Record. *Stephen D. Murray & Douglas N. C. Lin.* 400, 265, 212-C3 (1992)

LIN, S.-N. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

LIN, Y. C. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*. *Y. C. Lin, D. L. Bertsch, J. Chiang, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, P. L. Nolan, K. Pinkau, E. Schneid, P. Sreekumar, & D. J. Thompson.* 401, L61, 232-F9 (1992)

LINARD, DAVID L. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

LINDBLOM, LEE. Post-Newtonian Frequencies for the Pulsations of Rapidly Rotating Neutron Stars. *Curt Cutler & Lee Lindblom.* 385, 630, 21-A1 (1992)

On the Pulsations of Relativistic Accretion Disks and Rotating Stars: The Cowling Approximation. *James R. Ipser & Lee Lindblom.* 389, 392, 64-G1 (1992)

Determining the Nuclear Equation of State from Neutron-Star Masses and Radii. *Lee Lindblom.* 398, 569, 191-C1 (1992)

LINDSEY, C. Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

LINDSEY, C. A. Local Acoustic Diagnostics of the Solar Interior. *D. C. Braun, C. A. Lindsey, Y. Fan, & S. M. Jefferies.* 392, 739, 111-D7 (1992)

LINEWEAVER, C. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

LING, J. C. *HEAO 3* Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)

LINGENFELTER, R. E. On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

Are Repeaters Responsible for Gamma-Ray Burst $\langle V/V_{max} \rangle < 0.5$? *R. E. Lingenfelter & J. C. Higdon.* 397, 576, 178-B7 (1992)

LINGENFELTER, RICHARD E. Angle-dependent Green's Functions for Relativistic Compton Reflection. *Xin-Min Hua & Richard E. Lingenfelter.* 397, 591, 178-D1 (1992)

LINK, BENNETT. Postglitch Behavior of the Crab Pulsar: Evidence for External Torque Variations. *Bennett Link, Richard I. Epstein, & Gordon Baym.* 390, L21, 78-D5 (1992)

LINKE, RICHARD A. The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

LINSKY, JEFFREY L. Radio Emission from Chemically Peculiar Stars. *Jeffrey L. Linsky, Stephen A. Drake, & T. S. Bastian.* 393, 341, 118-D1 (1992)

Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)

LÍPARI, S. Optical Spectroscopy and Narrow-Band Images of the Variable Seyfert 1 Galaxy NGC 3783. *Claudia Winge, M. G. Pastoriza, T. Storchi-Bergmann, & S. Lípari.* 393, 98, 115-C11 (1992)

LÍPARI, SEBASTIAN. Coronal Lines and Starburst Features in Two New *IRAS* Active Galactic Nuclei: IRAS 04493–6441 and IRAS 22419–6049. *Sebastian Lípari & F. Macchetto.* 387, 522, 45-B9 (1992)

IRAS 03202–5150: A New Ring Active Galactic Nucleus with Obscured Seyfert 1 Nucleus. *Sebastian Lípari & F. Macchetto.* 397, 126, 169-E6 (1992)

LIS, DARIUSZ C. High Angular Resolution Far-Infrared Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, D. F. Lester, & P. M. Harvey.* 389, 338, 64-B7 (1992)

LISZT, H. S. An Extended Search for Extragalactic O_2. *H. S. Liszt.* 386, 139, 25-G9 (1992)

Kinematics and Morphology of Material Occulting ζ Ophiuchi. *H. S. Liszt.* 390, 226, 76-G1 (1992)

LISZT, HARVEY S. Radio Images of Sagittarius. I. Overview, Sagittarius D, and Sagittarius E. *Harvey S. Liszt.* 82, 495, 55-G1 (1992)

LITES, B. W. Observation and Interpretation of the Asymmetric Stokes *Q*, *U*, and *V* Line Profiles in Sunspots. *J. Sánchez Almeida & B. W. Lites.* 398, 359, 186-C1 (1992)

LITES, BRUCE W. Localized Sources of Propagating Acoustic Waves in the Solar Photosphere. *Timothy M. Brown, Thomas J. Bogdan, Bruce W. Lites, & John H. Thomas.* 394, L65, 139-E7 (1992)

LITTLE-MARENIN, IRENE R. 8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)

LIU, C. An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

LIU, F. K. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

LIU, WEIHONG. Carbon Monoxide in SN 1987A. *Weihong Liu, A. Dalgarno, & S. Lepp.* 396, 679, 165-G1 (1992)

LIVIO, MARIO. Astrophysical Jets and Theories of Gravitation. *Mario Livio & Nathan Rosen.* 387, 458, 44-D5 (1992)

Type I Supernovae and Accretion-induced Collapses from Cataclysmic Variables? *Mario Livio & James W. Truran.* 389, 695, 70-A10 (1992)

Classical Novae and the Extragalactic Distance Scale. *Mario Livio.* 393, 516, 122-C1 (1992)

On the Role of Radioactive Decays in Powering Gamma Rays and X-Rays from Novae. *Mario Livio, Apostolos Mastichiadis, Hakki Ögelman, & James W. Truran.* 394, 217, 130-F5 (1992)

Dynamical Stability of Two-dimensional Accretion Flows: An Analytic Study. *Omri Gat & Mario Livio.* 396, 542, 164-C1 (1992)

LIVNE, E. Explosion of a Supernova with a Red Giant Companion. *E. Livne, Y. Tuchman, & J. C. Wheeler.* 399, 665, 206-B11 (1992)

LIZANO, SUSANA. Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

LLOYD-HART, M. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network. *M. Lloyd-Hart, P. Wizinowich, B. McLeod, D. Wittman, D. Colucci, R. Dekany, D. McCarthy, J. R. P. Angel, & D. Sandler.* 390, L41, 78-F8 (1992)

LO, K. Y. Zeeman Measurements of the Magnetic Fields at the Galactic Center. *N. E. B. Killeen, K. Y. Lo, & R. Crutcher.* 385, 585, 20-D6 (1992)
A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)
LOCHNER, JAMES C. Long-Term Variability in Low-Mass X-Ray Binaries: A Study Using Data from *Vela 5B*. *Alan P. Smale & James C. Lochner.* 395, 582, 150-B13 (1992)
LOCKETT, PHILIP. Modeling SiO Maser Emission from Late-Type Stars. *Philip Lockett & Moshe Elitzur.* 399, 704, 206-F9 (1992)
LOCKMAN, FELIX J. Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)
The Unusual Cometary Star-forming Region G110−13. *Sten Odenwald, Jacqueline Fischer, Felix J. Lockman, & Sally Stemwedel.* 397, 174, 170-B9 (1992)
LOCKWOOD, G. W. A New Solar Irradiance Calibration from 3295 Å to 8500 Å Derived from Absolute Spectrophotometry of Vega. *G. W. Lockwood, H. Tüg, & N. M. White.* 390, 668, 83-E9 (1992)
The Activity Cycle of σ Draconis. *David F. Gray, Sallie L. Baliunas, G. W. Lockwood, & Brian A. Skiff.* 400, 681, 219-A1 (1992)
LOCKWOOD, J. A. The Solar Flare Event on 1990 May 24: Evidence for Two Separate Particle Accelerations. *H. Debrunner, J. A. Lockwood, & J. M. Ryan.* 387, L51, 43-F7 (1992)
LOEB, A. A Lower Limit on the Cosmic Mean Density from the Ages of Clusters of Galaxies. *D. Richstone, A. Loeb, & E. L. Turner.* 393, 477, 121-G1 (1992)
LOEB, ABRAHAM. Accretion Flows near Black Holes Mediated by Radiative Viscosity. *Abraham Loeb & Ari Laor.* 384, 115, 2-D10 (1992)
Discovering Planetary Systems through Gravitational Microlenses. *Andrew Gould & Abraham Loeb.* 396, 104, 156-D6 (1992)
LOEWENSTEIN, K. See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.
See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.
LOEWENSTEIN, MICHAEL. Dark Matter in NGC 4472. *Michael Loewenstein.* 384, 474, 8-A9 (1992)
LOEWENSTEIN, R. F. Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)
LOKEN, CHRIS. Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)
LONG, KEVIN. Would a Galactic Bar Destroy the Globular Cluster System? *Kevin Long, Jeremiah P. Ostriker, & Luis Aguilar.* 388, 362, 54-G8 (1992)
Analytical Potentials for Barred Galaxies. *Kevin Long & Chigurupati Murali.* 397, 44, 168-E9 (1992)
LONG, KNOX S. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.
See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.
A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)
Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)
A Rapid Decline in the Optical Emission from SN 1957D in M83. *Knox S. Long, P. Frank Winkler, & William P. Blair.* 395, 632, 151-A5 (1992)
Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068: Erratum. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 397, L127, 181-F12 (1992) (Orig. paper in 394, L37, 139-B7 (1992))
Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)
Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)
See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.
LONGCOPE, D. W. Quasi-static Evolution of Coronal Magnetic Fields. *D. W. Longcope & R. N. Sudan.* 384, 305, 4-F12 (1992)
LONSDALE, CAROL J. A VLBI Search for AGN Radio Cores in Starburst Galaxies. *Colin J. Lonsdale, Carol J. Lonsdale, & Harding E. Smith.* 391, 629, 95-G6 (1992)
LONSDALE, COLIN J. A VLBI Search for AGN Radio Cores in Starburst Galaxies. *Colin J. Lonsdale, Carol J. Lonsdale, & Harding E. Smith.* 391, 629, 95-G6 (1992)
LORAN, J. Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)
LOREDO, THOMAS J. A New Method for the Detection of a Periodic Signal of Unknown Shape and Period. *P. C. Gregory & Thomas J. Loredo.* 398, 146, 183-F11 (1992)
LORENZETTI, D. Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)
LOU, YU-QING. On the Process of Resistive Heating Instability and the Formation of Coronal Loop Structures. *Yu-Qing Lou.* 395, 682, 151-F13 (1992)
Three-dimensional Magnetic Field Configurations in Relativistic Magnetohydrodynamic Outflows. *Yu-Qing Lou.* 397, L67, 174-A10 (1992)
LOVAS, F. J. Microwave Spectra and Electric Dipole Moments for Low-J Levels of Interstellar Radicals: SO, C_2S, C_3S, c-HC_3, CH_2CC, and c-C_3H_2. *F. J. Lovas, R. D. Suenram, T. Ogata, & S. Yamamoto.* 399, 325, 199-D7 (1992)
LOVEDAY, J. The Stromlo–APM Redshift Survey. I. The Luminosity Function and Space Density of Galaxies. *J. Loveday, B. A. Peterson, G. Efstathiou, & S. J. Maddox.* 390, 338, 79-D5 (1992)
Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)
LOVELACE, R. V. E. Magnetic Interchange Instability of Accretion Disks. *M. Kaisig, T. Tajima, & R. V. E. Lovelace.* 386, 83, 25-B7 (1992)
Intrinsically Asymmetric Astrophysical Jets. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 390, 46, 74-F1 (1992)
LOVELACE, RICHARD V. E. Initiation of Bipolar Flows by Magnetic Field Twisting in Protostellar Nebulae. *William I. Newman, Alice L. Newman, & Richard V. E. Lovelace.* 392, 622, 110-A1 (1992)
LOW, B. C. Self-similar Magnetohydrodynamics. V. Gravitating Spheres and Spheroids. *B. C. Low.* 390, 567, 82-D1 (1992)
Three-dimensional Structures of Magnetostatic Atmospheres. IV. Magnetic Structures over a Solar Active Region. *B. C. Low.* 399, 300, 199-A6 (1992)
LOW, BOON CHYE. Energy Buildup in Sheared Force-free Magnetic Fields. *Richard Wolfson & Boon Chye Low.* 391, 353, 90-C6 (1992)
LOWENTHAL, J. An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)
LOWENTHAL, JAMES D. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)
LU, PHILLIP K. A Catalog of Faint A, F, and G Stars at the South Galactic Pole. *Phillip K. Lu, Jeffrey Miller, & Donald Platt.* 83, 203, 59-E3 (1992)
LU, R. W. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

LU, RICHANG. Radiative Lifetimes of the CN ($A^2\Pi_i$) Electronic State. *Richang Lu, Yuhui Huang, & Joshua B. Halpern.* 395, 710, 152-C1 (1992)

LU, T. Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5–1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

LUBIN, P. See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

LUBIN, P. M. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

LUBIN, PHILIP. A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

LUBOW, STEPHEN H. Dynamics of Ultraharmonic Resonances in Spiral Galaxies. *Paweł Artymowicz & Stephen H. Lubow.* 389, 129, 61-F1 (1992)

Tidally Driven Inclination Instability in Keplerian Disks. *Stephen H. Lubow.* 398, 525, 190-F3 (1992)

Dynamics of Eccentric Disks with Application to Superhump Binaries. *Stephen H. Lubow.* 401, 317, 225-A1 (1992)

LUBOWICH, D. A. Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

LUCCHIN, FRANCESCO. Velocity Dipoles in Cold Dark Matter Cosmologies. *Giuseppe Tormen, Francesco Lucchin, & Sabino Matarrese.* 386, 1, 24-B1 (1992)

The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

LUCK, R. EARLE. The Chemical Composition of Magellanic Cloud Cepheids and Nonvariable Supergiants. *R. Earle Luck & David L. Lambert.* 79, 303, 18-E3 (1992)

LUCY, L. B. Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

Nebular Spectra of Type Ia Supernovae as Probes for Extragalactic Distances, Reddening, and Nucleosynthesis. *P. Ruiz-Lapuente & L. B. Lucy.* 400, 127, 210-E1 (1992)

LUGGER, PHYLLIS M. Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)

LUKASIAK, A. Studies of the Low-Energy Galactic Cosmic-Ray Composition near 28 AU at Sunspot Minimum: The Primary-to-Primary Ratios. *W. R. Webber, P. Ferrando, A. Lukasiak, & F. B. McDonald.* 392, L91, 113-F1 (1992)

LUM, KENNETH S. K. The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

LUMSDEN, STUART L. The Distribution of Rich Clusters of Galaxies in the South Galactic Pole Region. *Luigi Guzzo, Chris A. Collins, Robert C. Nichol, & Stuart L. Lumsden.* 393, L5, 120-B1 (1992)

LUND, N. The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

LUNINE, JONATHAN I. The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)

LUO, DING. The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

LUO, XIAOCHUN. Thick Strings, the Liquid Crystal Blue Phase, and Cosmological Large-Scale Structure. *Xiaochun Luo & David N. Schramm.* 394, 12, 128-C1 (1992)

LUTTERMOSER, DONALD G. A VLA 3.6 Centimeter Survey of N-Type Carbon Stars. *Donald G. Luttermoser & Alexander Brown.* 384, 634, 10-A7 (1992)

Ionization and Excitation in Cool Giant Stars. I. Hydrogen and Helium. *Donald G. Luttermoser & Hollis R. Johnson.* 388, 579, 57-D7 (1992)

LYDON, THOMAS JOSEPH. A Formulation of Convection for Stellar Structure and Evolution Calculations without the Mixing-Length Theory Approximations. I. Application to the Sun. *Thomas Joseph Lydon, Peter A. Fox, & Sabatino Sofia.* 397, 701, 179-G3 (1992)

LYNCH, DAVID K. CO (v = 1–0) Emission in the Molecular Shock Regions of OMC-1. *G. L. Grasdalen, John A. Hackwell, David K. Lynch, & Ray W. Russell.* 397, L119, 181-E13 (1992)

8–13 Micron Spectroscopy of Nova Herculis 1991. *David K. Lynch, John A. Hackwell, & Ray W. Russell.* 398, 632, 192-A5 (1992)

LYNE, A. G. PSR 1259–63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

PSR J1341–6220: A Young Pulsar in a Supernova Remnant. *Victoria M. Kaspi, R. N. Manchester, Simon Johnston, A. G. Lyne, & N. D'Amico.* 399, L155, 208-D5 (1992)

MA, QIANCHENG. On the Inclusion of the Hydrogen Dimer in the Analysis of *Voyager* IRIS Spectra. *Barbara E. Carlson, Qiancheng Ma, & Andrew A. Lacis.* 394, L29, 133-D10 (1992)

MACALPINE, GORDON M. Seyfert Galaxy Ultraviolet Emission-Line Intensities and Variability: A Self-consistent Photoionization Analysis Applied to Broad-Line–emitting Gas in NGC 3783. *Anuradha P. Koratkar & Gordon M. MacAlpine.* 401, 110, 222-D3 (1992)

MACCACARO, T. The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

MACCACARO, TOMMASO. The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

MACCHETTO, D. The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

MACCHETTO, F. IC 5063: A Merger Remnant with a Hidden Luminous Active Nucleus: Erratum. *L. Colina, W. B. Sparks, & F. Macchetto.* 385, 766, 22-E13 (1992) (Orig. paper in 370, 102, 48-C5 (1991))

Properties of the SN 1987A Circumstellar Ring and the Distance to the Large Magellanic Cloud: Erratum. *N. Panagia, R. Gilmozzi, F. Macchetto, H.-M. Adorf, & R. P. Kirshner.* 386, L31, 29-E1 (1992) (Orig. paper in 380, L23, 181-D1 (1991))

Coronal Lines and Starburst Features in Two New *IRAS* Active Galactic Nuclei: IRAS 04493–6441 and IRAS 22419–6049. *Sebastian Lípari & F. Macchetto.* 387, 522, 45-B9 (1992)

IRAS 03202–5150: A New Ring Active Galactic Nucleus with Obscured Seyfert 1 Nucleus. *Sebastian Lípari & F. Macchetto.* 397, 126, 169-E6 (1992)

See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

Hubble Space Telescope Imaging of Distant Galaxies: 4C 41.17 at z = 3.8. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

MACCONNELL, D. JACK. The Case Low-Dispersion Northern Sky Survey. XIII. A Region in Central Bootes and Corona Borealis.

C. B. Stephenson, Peter Pesch, & D. Jack MacConnell. 82, 471, 55-D3 (1992)
Carbon Star Luminosity Indicators. *Paul J. Green, Bruce Margon, Scott F. Anderson, & D. Jack MacConnell.* 400, 659, 218-E12 (1992)
MACDONALD, JAMES. CNO Destruction by Spallation and Type I X-Ray Bursts. *Jason C. Tillett & James MacDonald.* 388, 555, 57-B7 (1992)
Prevention of Accretion onto White Dwarfs by Stellar Winds. *James MacDonald.* 394, 619, 137-B8 (1992)
MACDONALD, JIM. On Mass-Transfer Rates in Classical Nova Precursors. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 384, 580, 9-D1 (1992)
Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)
MACGREGOR, K. B. Angular Momentum Transport in Magnetized Stellar Radiative Zones. I. Numerical Solutions to the Core Spin-up Model Problem. *P. Charbonneau & K. B. MacGregor.* 387, 639, 46-E11 (1992)
Solar Spin-down with Internal Magnetic Fields. *P. Charbonneau & K. B. MacGregor.* 397, L63, 174-A3 (1992)
On the Interaction between Dust and Gas in Late-Type Stellar Atmospheres and Winds. *K. B. MacGregor & R. E. Stencel.* 397, 644, 179-A13 (1992)
MACHACEK, MARIE E. Self-interacting Dark Matter. *Eric D. Carlson, Marie E. Machacek, & Lawrence J. Hall.* 398, 43, 182-E7 (1992)
MACKAY, C. D. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.
See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.
MACKIE, GLEN. The Stellar Content of Central Dominant Galaxies. II. Colors of cD Envelopes. *Glen Mackie.* 400, 65, 209-G1 (1992)
MACLEOD, J. M. The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)
See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.
MAC LOW, MORDECAI-MARK. The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)
Water Masers in W49N—The Youngest Stellar Jet? *Mordecai-Mark Mac Low & Moshe Elitzur.* 393, L33, 120-E6 (1992)
Bow Shock Models for the Velocity Structure of Ultracompact H II Regions. *Dave Van Buren & Mordecai-Mark Mac Low.* 394, 534, 136-A7 (1992)
MADAU, P. On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)
MADAU, PIERO. The Contribution of Quasars to the Ultraviolet Extragalactic Background. *Piero Madau.* 389, L1, 66-B1 (1992)
MADDOX, S. J. Spatial Correlations in a Redshift Survey of APM Galaxy Clusters. *G. B. Dalton, G. Efstathiou, S. J. Maddox, & W. J. Sutherland.* 390, L1, 78-A8 (1992)
The Stromlo–APM Redshift Survey. I. The Luminosity Function and Space Density of Galaxies. *J. Loveday, B. A. Peterson, G. Efstathiou, & S. J. Maddox.* 390, 338, 79-D5 (1992)
Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)
MADEJSKI, G. M. The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)
MADEJSKI, GREG. Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)
MADORE, BARRY F. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)
MADSEN, CLAUS. Primordial Giant Molecular Cloud Clumps Can Be Probed—Optically. *David L. Block, J. E. Dyson, & Claus Madsen.* 390, L13, 78-C1 (1992)
MAGAIN, P. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)
MAGALHÃES, A. M. The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)
See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.
Polarization and the Envelopes of B[e] Supergiants in the Magellanic Clouds. *A. M. Magalhães.* 398, 286, 185-C11 (1992)
See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.
MAGALHÃES, ANTONIO MARIO. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.
MAGAZZÙ, ANTONIO. Spectroscopy of a Brown Dwarf Candidate in the α Persei Open Cluster. *Rafael Rebolo, Eduardo L. Martín, & Antonio Magazzù.* 389, L83, 73-E11 (1992)
Lithium Abundances in Classical and Weak T Tauri Stars. *Antonio Magazzù, Rafael Rebolo, & Yakov V. Pavlenko.* 392, 159, 103-A1 (1992)
MAGGIO, A. X-Ray Activity as Statistical Age Indicator: The Disk G–K Giants. *G. Micela, A. Maggio, & G. S. Vaiana.* 388, 171, 51-B5 (1992)
MAHESWARAN, MURUGESAPILLAI. Constraints on the Surface Magnetic Fields of Hot Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 386, 695, 33-G13 (1992)
MAHONEY, MICHAEL J. Evidence for Unseen Companions around T Tauri Stars. *Kenneth A. Marsh & Michael J. Mahoney.* 395, L115, 154-D1 (1992)
MAHONEY, W. A. *HEAO 3* Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)
MAIER, E. Preliminary Results of a Balloon Flight of the Solar Disk Sextant. *E. Maier, L. Twigg, & S. Sofia.* 389, 447, 65-D11 (1992)
MAJEWSKI, STEVEN RAYMOND. A Complete, Multicolor Survey of Absolute Proper Motions to $B \sim 22.5$: Galactic Structure and Kinematics at the North Galactic Pole. *Steven Raymond Majewski.* 78, 87, 2-F11 (1992)
MAKINO, F. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.
See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.
X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)
MAKINO, JUNICHIRO. Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)
MAKISHIMA, K. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.
See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.
The Polar Cap Structure of the X-Ray Pulsar 4U 1538−52. *T. Bulik, P. Mészáros, J. W. Woo, F. Nagase, & K. Makishima.* 395, 564, 149-G9 (1992)
X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)
MALAGOLI, A. Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)
MALAMA, Y. G. Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)
MALANEY, R. A. The Neutrino Process and ^{9}Be in the Early Universe. *R. A. Malaney.* 398, L45, 187-G1 (1992)

MALARA, FRANCESCO. Incompressible Disturbances in Nonuniform Media: Formation of Small Scales. *Francesco Malara, Pierluigi Veltri, Claudio Chiuderi, & Giorgio Einaudi.* 396, 297, 158-F13 (1992)

MALKAN, M. A. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

MALKAN, MATTHEW A. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

The Broad Emission Line and Continuum Variations of Seyfert Galaxies. I. Time Scales and Amplitudes. *Edward I. Rosenblatt, Matthew A. Malkan, Wallace L. W. Sargent, & Anthony C. S. Readhead.* 81, 59, 35-G9 (1992)

A Photometric Search for [O II] Lines in Mg II Quasar Absorption Systems. *Brant O. Nelson & Matthew A. Malkan.* 82, 447, 55-B1 (1992)

Infrared Line Diagnostics of Active Galactic Nuclei. *Luigi Spinoglio & Matthew A. Malkan.* 399, 504, 204-B11 (1992)

MALLIK, D. C. V. Anomalously High Apparent Abundances of Singly Ionized Helium in the Galactic H II Region W3A. *P. R. Roelfsema, W. M. Goss, & D. C. V. Mallik.* 394, 188, 130-C13 (1992)

MALONEY, PHILIP. Low-Redshift Lyman-Alpha Absorption Lines and the Dark Matter Halos of Disk Galaxies. *Philip Maloney.* 398, L89, 194-C1 (1992)

MALONEY, PHILIP R. Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

Heating of H II Regions with Application to the Galactic Center. *Philip R. Maloney, David J. Hollenbach, & Charles H. Townes.* 401, 559, 229-E5 (1992)

MALUENDES, SERGIO A. Calculations of Ion-Molecule Deuterium Fractionation Reactions Involving HD. *Sergio A. Maluendes, A. D. McLean, & Eric Herbst.* 397, 477, 176-F10 (1992)

MALUMUTH, ELIOT M. The Distribution of cD Galaxy Peculiar Velocities. *Eliot M. Malumuth.* 386, 420, 30-E13 (1992)

MAMON, GARY A. Are Cluster Ellipticals the Products of Mergers? *Gary A. Mamon.* 401, L3, 227-A10 (1992)

MANANDHAR, R. P. Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339–4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)

MANCHESTER, R. N. PSR 1259–63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

PSR J1341–6220: A Young Pulsar in a Supernova Remnant. *Victoria M. Kaspi, R. N. Manchester, Simon Johnston, A. G. Lyne, & N. D'Amico.* 399, L155, 208-D5 (1992)

MANDELBAUM, P. The Potential for Plasma Diagnostics from Stellar Extreme-Ultraviolet Observations. *U. Feldman, P. Mandelbaum, J. F. Seely, G. A. Doschek, & H. Gursky.* 81, 387, 40-D3 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

MANDOLESI, N. CN Rotational Excitation. *E. Palazzi, N. Mandolesi, & Philippe Crane.* 398, 53, 182-F5 (1992)

A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

MANDROU, P. See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524–62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731–260.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

MANDZHAVIDZE, NATALIE. High-Energy Gamma-Ray Emission from Pion Decay in a Solar Flare Magnetic Loop. *Natalie Mandzhavidze & Reuven Ramaty.* 389, 739, 70-E6 (1992)

Gamma Rays from Pion Decay: Evidence for Long-Term Trappings of Particles in Solar Flares. *Natalie Mandzhavidze & Reuven Ramaty.* 396, L111, 167-F7 (1992)

MANGUM, JEFFREY G. Synthesis Imaging of the DR 21 (OH) Cluster. II. Thermal Ammonia and Water Maser Emission. *Jeffrey G. Mangum, Alwyn Wootten, & Lee G. Mundy.* 388, 467, 56-B6 (1992)

Northern Dwarf and Low Surface Brightness Galaxies. II. The Green Bank Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Jeffrey G. Mangum, & John Miller.* 81, 5, 35-B13 (1992)

MANNHEIM, PHILIP D. Conformal Gravity and the Flatness Problem. *Philip D. Mannheim.* 391, 429, 93-B12 (1992)

MANNOCCHI, G. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

MANNUCCI, F. Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

MAO, SHUDE. The Topology of Large-Scale Structure. V. Two-dimensional Topology of Sky Maps. *J. Richard Gott III, Shude Mao, Changbom Park, & Ofer Lahav.* 385, 26, 12-D1 (1992)

Caustic-induced Features in Microlensing Magnification Probability Distributions. *Kevin P. Rauch, Shude Mao, Joachim Wambsganss, & Bohdan Paczyński.* 386, 30, 24-D10 (1992)

On the Cosmological Origin of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 388, L45, 59-A9 (1992)

Gravitational Microlensing by a Single Star plus External Shear. *Shude Mao.* 389, 63, 60-G9 (1992)

On the Galactic Disk and Halo Models of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 389, L13, 66-C1 (1992)

Gravitational Lensing, Time Delay, and Gamma-Ray Bursts. *Shude Mao.* 389, L41, 73-B1 (1992)

MAOZ, D. The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

MAOZ, DAN. The Angular Correlation of Quasars and Abell Clusters. *Roger W. Romani & Dan Maoz.* 386, 36, 24-E3 (1992)

A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*. *Dan Maoz, John N. Bahcall, Donald P. Schneider, Rodger Doxsey, Neta A. Bahcall, Alexei V. Filippenko, W. Miller Goss, Ofer Lahav, & Brian Yanny.* 386, L1, 29-B1 (1992)

Hubble Space Telescope Imaging of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, Dan Maoz, Donald P. Schneider, Brian Yanny, & Rodger Doxsey.* 392, L1, 106-A7 (1992)

Faint Object Spectrograph Observations of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, George F. Hartig, Buell T. Jannuzi, Dan Maoz, & Donald P. Schneider.* 400, L51, 220-C1 (1992)

MAOZ, EYAL. Dynamical Friction from Fluctuations in Stellar Dynamical Systems. *Jacob D. Bekenstein & Eyal Maoz.* 390, 79, 75-A10 (1992)

MARAN, STEPHEN P. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

MARAR, T. M. K. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

MARASCHI, L. See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477).

A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

MARCHENKO, S. V. Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

MARCUM, P. M. Large Infrared and Optical Color Gradients in the Cartwheel Ring Galaxy: Evidence for the First Epoch of Star Formation in the Wake of an Expanding Ring. *P. M. Marcum, P. N. Appleton, & J. L. Higdon.* 399, 57, 195-G3 (1992)

MARCY, GEOFFREY W. The Rotation of M Dwarfs. *Geoffrey W. Marcy & Grace H. Chen.* 390, 550, 82-B11 (1992)

Limits on the Magnetic Flux of Pre–Main-Sequence Stars. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 390, 622, 83-A9 (1992)

Multiplicity among M Dwarfs. *Debra A. Fischer & Geoffrey W. Marcy.* 396, 178, 157-C13 (1992)

MARDIROSSIAN, F. The Mass Distribution Function of Groups of Galaxies. *A. Pisani, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 389, 68, 61-A1 (1992)

Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)

MARGON, BRUCE. TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)

Carbon Star Luminosity Indicators. *Paul J. Green, Bruce Margon, Scott F. Anderson, & D. Jack MacConnell.* 400, 659, 218-E12 (1992)

MARGULIS, MICHAEL. Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

MARIANI, MICHELE. Thermal Evolution of Phases during the Cosmological Quark-Hadron Transition. *Michele Mariani & Silvio A. Bonometto.* 385, 393, 18-B5 (1992)

MARISKA, JOHN T. Diagnostics of Electron-heated Solar Flare Models. III. Effects of Tapered Loop Geometry and Preheating. *A. Gordon Emslie, Peng Li, & John T. Mariska.* 399, 714, 206-G7 (1992)

Solar Doppler-Shift Measurements in the Ne VII 465 Å Emission Line. *John T. Mariska & James F. Dowdy, Jr.* 401, 754, 231-G8 (1992)

MARKERT, THOMAS H. The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

MARKEVITCH, M. Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)

MARLBOROUGH, J. M. Dynamics of the Envelopes of Be Stars in the Equatorial Plane. *Haiqi Chen, J. M. Marlborough, & L. B. F. M. Waters.* 384, 605, 9-F1 (1992)

Dynamics of the Envelopes of Be Stars in the Equatorial Plane. II. The Influence of a Weak Magnetic Field on the Azimuthal Motion of a Slowly Expanding Wind. *Haiqi Chen & J. M. Marlborough.* 397, 242, 171-A3 (1992)

MAROM, ARIEL. Toward a Resolution of the Bump and Beat Cepheid Mass Discrepancies. *Paweł Moskalik, J. Robert Buchler, & Ariel Marom.* 385, 685, 21-E13 (1992)

MARR, JONATHAN M. Fine-Scale Structure in the -185 Kilometers per Second Absorption by HCO^+ in the Galactic Center. *Jonathan M. Marr, Alexander L. Rudolph, Thomas A. Pauls, Melvyn C. H. Wright, & Donald C. Backer.* 400, L29, 214-D5 (1992)

MARSH, KENNETH A. Evidence for Unseen Companions around T Tauri Stars. *Kenneth A. Marsh & Michael J. Mahoney.* 395, L115, 154-D1 (1992)

MARSHALL, F. E. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

MARTEL, HUGO. Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)

MARTÍ, J. The Radio Counterpart of the Hard X-Ray Source GRS 1758−258. *L. F. Rodríguez, I. F. Mirabel, & J. Martí.* 401, L15, 227-C1 (1992)

MARTIN, CHRISTOPHER. Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)

MARTIN, CRYSTAL L. The Synchrotron Bays of the Crab Nebula: A Magnetic Structure Associated with a Presupernova Circumstellar Disk. *Robert A. Fesen, Crystal L. Martin, & J. Michael Shull.* 399, 599, 205-C7 (1992)

MARTÍN, EDUARDO L. Spectroscopy of a Brown Dwarf Candidate in the α Persei Open Cluster. *Rafael Rebolo, Eduardo L. Martín, & Antonio Magazzù.* 389, L83, 73-E11 (1992)

MARTIN, P. Contribution of Polycyclic Aromatic Hydrocarbon Molecules to the Interstellar Extinction Curve. *C. Joblin, A. Léger, & P. Martin.* 393, L79, 127-F1 (1992)

MARTIN, P. G. Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

Interstellar Polarization from 3 to 5 Microns in Reddened Stars. *P. G. Martin, A. J. Adamson, D. C. B. Whittet, J. H. Hough, J. A. Bailey, S.-H. Kim, S. Sato, M. Tamura, & T. Yamashita.* 392, 691, 110-G3 (1992)

MARTIN, PIERRE. The Oxygen Abundance Gradient in the Barred Spiral Galaxy NGC 4303. *Pierre Martin & Jean-René Roy.* 397, 463, 176-D13 (1992)

MARTINEZ, P. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

MARTÍN-PINTADO, J. Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *J. Martín-Pintado & R. Bachiller.* 401, L47, 227-G1 (1992) (Orig. paper in 391, L93, 99-G12 (1992))

MARTÍN-PINTADO, JESÚS. Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *Jesús Martín-Pintado & Rafael Bachiller.* 391, L93, 99-G12 (1992)

MARZIANI, P. Twin Peaks: IC 4329A and Arakelian 120. *P. Marziani, M. Calvani, & J. W. Sulentic.* 393, 658, 124-A5 (1992)

MASHAL, EZRA. The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)

MASI, S. Testing the Isotropy of the Cosmic Microwave Background: The ULISSE Experiment. *P. de Bernardis, S. Masi, F. Melchiorri, B. Melchiorri, & N. Vittorio.* 396, L57, 166-G1 (1992)

MASNOU, J. L. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

MASON, A. Importance of Synchrotron Cooling in Self-consistent Spherical Accretion Models. *A. Mason & R. Turolla.* 400, 170, 211-A10 (1992)

MASON, G. M. The Energy Spectra of Solar Flare Hydrogen, Helium, Oxygen, and Iron: Evidence for Stochastic Acceleration. *J. E. Mazur, G. M. Mason, B. Klecker, & R. E. McGuire.* 401, 398, 226-A5 (1992)

MASON, K. O. Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

MASSARO, E. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

MASSEY, P. *Hubble Space Telescope* Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

MASSON, COLIN R. Properties of Swept-up Molecular Outflows. *Colin R. Masson & Lawrence M. Chernin.* 387, L47, 43-F1 (1992)

Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chernin & Colin R. Masson.* 396, L35, 160-F8 (1992)

MASTICHIADIS, APOSTOLOS. Compton Scattering in a Converging Fluid Flow: Spherical Near-critical Accretion onto Neutron Stars. *Apostolos Mastichiadis & Nikolaos D. Kylafis.* 384, 136, 2-F7 (1992)

On the Role of Radioactive Decays in Powering Gamma Rays and X-Rays from Novae. *Mario Livio, Apostolos Mastichiadis, Hakki Ögelman, & James W. Truran.* 394, 217, 130-F5 (1992)

MASUDA, AKIMASA. See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).

MATARRESE, SABINO. Velocity Dipoles in Cold Dark Matter Cosmologies. *Giuseppe Tormen, Francesco Lucchin, & Sabino Matarrese.* 386, 1, 24-B1 (1992)

The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

MATEO, M. On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

MATEO, MARIO. TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)

The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)

MATESE, JOHN J. Velocity Streaming of *IRAS* Main-Sequence Disk Stars and the Episodic Enhancement of Particulate Disks by Interstellar Clouds. *Daniel P. Whitmire, John J. Matese, & Patrick G. Whitman.* 388, 190, 51-D1 (1992)

MATHER, J. See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

MATHER, J. C. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

MATHESON, THOMAS. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

MATHEWS, G. J. Evolution of Heavy-Element Abundances as a Constraint on Sites for Neutron-Capture Nucleosynthesis. *G. J. Mathews, G. Bazan, & J. J. Cowan.* 391, 719, 97-A1 (1992)

r-Process Nucleosynthesis in the High-Entropy Supernova Bubble. *B. S. Meyer, G. J. Mathews, W. M. Howard, S. E. Woosley, & R. D. Hoffman.* 399, 656, 206-B1 (1992)

MATHEWS, WILLIAM G. Resonance Line Radiation Instability in Fully Ionized Plasmas. *William G. Mathews.* 386, 90, 25-C1 (1992)

MATHEWSON, D. S. No Back-Side Infall into the Great Attractor. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 389, L5, 66-B6 (1992)

A Southern Sky Survey of the Peculiar Velocities of 1355 Spiral Galaxies. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 81, 413, 41-B1 (1992)

MATHIOUDAKIS, M. Limits on Detectability of Mass Loss from Cool Dwarfs. *D. J. Mullan, J. G. Doyle, R. O. Redman, & M. Mathioudakis.* 397, 225, 170-F12 (1992)

MATHIS, DOUGLAS F. Deep *Hubble Space Telescope* Imaging of a Compact Radio Galaxy at $z = 2.390$. *Rogier Windhorst, Douglas F. Mathis, & William C. Keel.* 400, L1, 214-A8 (1992)

MATHIS, J. S. An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

MATHIS, JOHN S. Deviations of Interstellar Extinctions from the Mean *R*-dependent Extinction Law. *John S. Mathis & Jason A. Cardelli.* 398, 610, 191-F7 (1992)

MATSUDA, T. Spiral Shocks and Subday Variability in SS 433. *Sandip K. Chakrabarti & T. Matsuda.* 390, 639, 83-C1 (1992)

MATSUDA, TAKUYA. Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

MATSUHARA, H. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

MATSUMOTO, R. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

MATSUMOTO, RYOJI. Giant Molecular Cloud Formation through the Parker Instability in a Skewed Magnetic Field. *Tomoyuki Hanawa, Ryoji Matsumoto, & Kazunari Shibata.* 393, L71, 127-E1 (1992)

MATSUMOTO, T. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

MATSUOKA, M. X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

MATSUURA, S. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

MATT, G. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

MATTEI, JANET A. On the Long-Term Behavior of SS Cygni. *John K. Cannizzo & Janet A. Mattei.* 401, 642, 230-E1 (1992)

MATTESON, JAMES L. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

MATTEUCCI, FRANCESCA. Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

The Influence of Dark Matter on the Chemical Evolution of Elliptical Galaxies. *Francesca Matteucci.* 397, 32, 168-D9 (1992)

MATTHEWS, H. E. The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)

See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

MATTHEWS, K. High Spatial Resolution Continuum and Hα Imaging of the High-Redshift *IRAS* Source FSC 10214+4724. *B. T. Soifer, G. Neugebauer, K. Matthews, C. Lawrence, & J. Mazzarella.* 399, L55, 200-F1 (1992)

MATTOX, J. R. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

MAUAS, PABLO J. D. Kinetic Description of Electron Beams in the Solar Chromosphere. *Daniel O. Gómez & Pablo J. D. Mauas.* 398, 682, 192-E6 (1992)

MAUERSBERGER, RAINER. The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mcuersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

A Survey for Extragalactic HCN and HCO^+. *Nguyen-Q-Rieu, James M. Jackson, Christian Henkel, Truong-Bach, & Rainer Mauersberger.* 399, 521, 204-D1 (1992)

MAUROGORDATO, S. The Large-Scale Galaxy Distribution in the Southern Sky Redshift Survey. *S. Maurogordato, R. Schaeffer, & L. N. da Costa.* 390, 17, 74-C7 (1992)

MAUROGORDATO, SOPHIE. Void Probability Function in the Southern Sky Redshift Survey. *Marc Lachièze-Rey, Luiz Nicolaci da Costa, & Sophie Maurogordato.* 399, 10, 195-B13 (1992)

MAX, CLAIRE E. Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

MAXSON, C. Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

MAYER-HASSELWANDER, H. A. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

MAYLE, R. Can a Closure Mass Neutrino Help Solve the Supernova Shock Reheating Problem? *George M. Fuller, R. Mayle, Bradley S. Meyer, & James R. Wilson.* 389, 517, 67-G10 (1992)

MAYOR, M. Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

MAYOR, MICHEL. On the Mass-Ratio Distribution of Spectroscopic Binaries with Solar-Type Primaries. *Tsevi Mazeh, Dorit Goldberg, Antoine Duquennoy, & Michel Mayor.* 401, 265, 224-C9 (1992)

MAZEH, TSEVI. On the Study of the Mass Ratio of Spectroscopic Binaries. *Tsevi Mazeh & Dorit Goldberg.* 394, 592, 136-F10 (1992)

On the Mass-Ratio Distribution of Spectroscopic Binaries with Solar-Type Primaries. *Tsevi Mazeh, Dorit Goldberg, Antoine Duquennoy, & Michel Mayor.* 401, 265, 224-C9 (1992)

MAZUR, J. E. The Energy Spectra of Solar Flare Hydrogen, Helium, Oxygen, and Iron: Evidence for Stochastic Acceleration. *J. E. Mazur, G. M. Mason, B. Klecker, & R. E. McGuire.* 401, 398, 226-A5 (1992)

MAZURE, ALAIN. Wavelet Analysis of Subclustering: An Illustration, Abell 754. *Eric Escalera & Alain Mazure.* 388, 23, 49-C12 (1992)

MAZZARELLA, J. High Spatial Resolution Continuum and Hα Imaging of the High-Redshift *IRAS* Source FSC 10214+4724. *B. T. Soifer, G. Neugebauer, K. Matthews, C. Lawrence, & J. Mazzarella.* 399, L55, 200-F1 (1992)

MAZZITELLI, I. Further Improvements of a New Model for Turbulent Convection in Stars. *V. M. Canuto & I. Mazzitelli.* 389, 724, 70-D1 (1992)

MCADAM, W. BRUCE. The Structure of Southern Extragalactic Radio Sources. *Paul A. Jones & W. Bruce McAdam.* 80, 137, 24-C3 (1992)

MCCABE, GEORGE. Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

MCCALL, MARSHALL L. The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

MCCAMMON, DAN. Photoelectric Absorption Cross Sections with Variable Abundances. *Monika Bałucińska-Church & Dan McCammon.* 400, 699, 219-B11 (1992)

MCCANN, S. M. Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

MCCARTHY, D. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

MCCARTHY, P. J. Infrared Imaging of $z > 2$ Radio Galaxies. *P. J. McCarthy, S. E. Persson, & S. C. West.* 386, 52, 24-F7 (1992)

MCCARTHY, PATRICK J. The Lyα/Hα Ratio in High-Redshift Radio Galaxies. *Patrick J. McCarthy, Richard Elston, & Peter Eisenhardt.* 387, L29, 43-D1 (1992)

MCCAUSLAND, R. J. H. Hot Post–Asymptotic Giant Branch Stars at High Galactic Latitudes. *R. J. H. McCausland, E. S. Conlon, P. L. Dufton, & F. P. Keenan.* 394, 298, 131-F5 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

MCCLINTOCK, JEFFREY E. Evidence for a Black Hole in the X-Ray Binary Nova Muscae 1991. *Ronald A. Remillard, Jeffrey E. McClintock, & Charles D. Bailyn.* 399, L145, 208-C7 (1992)

MCCLINTOCK, W. E. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.

MCCLURE, ROBERT D. HRCam Survey for Closely Spaced Gravitational Lenses. *David Crampton, Robert D. McClure, & J. Murray Fletcher.* 392, 23, 101-C10 (1992)

High-Resolution Imaging of Virgo Cluster Galaxies. I. The Distance Based on the Brightest Stars in NGC 4571. *Michael J. Pierce, Robert D. McClure, & René Racine.* 393, 523, 122-C9 (1992)

MCCRAY, RICHARD. Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

The [O I] λλ6300,6364 Doublet of SN 1987A. *Hongwei Li & Richard McCray.* 387, 309, 40-F12 (1992)

The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

MCCULLOUGH, PETER R. The Interstellar Deuterium-to-Hydrogen Ratio: A Reevaluation of Lyman Absorption-Line Measurements. *Peter R. McCullough.* 390, 213, 76-E10 (1992)

MCDAVID, D. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

MCDONALD, F. B. Studies of the Low-Energy Galactic Cosmic-Ray Composition near 28 AU at Sunspot Minimum: The Primary-to-Primary Ratios. *W. R. Webber, P. Ferrando, A. Lukasiak, & F. B. McDonald.* 392, L91, 113-F1 (1992)

MCDOWELL, JONATHAN C. *EXOSAT* X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

PKS 0438−436: A High-Redshift Quasar with Strong X-Ray Absorption. *Belinda J. Wilkes, Martin Elvis, Fabrizio Fiore, Jonathan C. McDowell, Harvey Tananbaum, & Andrew Lawrence.* 393, L1, 120-A9 (1992)

MCGUIRE, R. E. The Energy Spectra of Solar Flare Hydrogen, Helium, Oxygen, and Iron: Evidence for Stochastic Acceleration. *J. E. Mazur, G. M. Mason, B. Klecker, & R. E. McGuire.* 401, 398, 226-A5 (1992)

MCHARDY, I. M. On the Uncertainties in the Properties of Quasar Host Galaxies. *R. C. ... ham, C. S. Crawford, & I. M. McHardy.* 401, 474, 228-E9 (1992)

MCKEE, CHRISTOPHER F. Dynamics of Wind Bubbles and Superbubbles. I. Slow Winds and Fast Winds. *Bon-Chul Koo & Christopher F. McKee.* 388, 93, 50-C1 (1992)

Dynamics of Wind Bubbles and Superbubbles. II. Analytic Theory. *Bon-Chul Koo & Christopher F. McKee.* 388, 103, 50-C12 (1992)

Planar H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 394, 221, 130-F10 (1992)

Pressure-confined Clumps in Magnetized Molecular Clouds. *Frank Bertoldi & Christopher F. McKee.* 395, 140, 142-A1 (1992)

On the Virial Theorem for Turbulent Molecular Clouds. *Christopher F. McKee & Ellen G. Zweibel.* 399, 551, 204-F7 (1992)

McKEITH, CONAL D. Observation of Fine Structure in the Cold Phase of the Local Interstellar Medium Using K I Absorption. *Joaquín Trapero, John E. Beckman, Ricardo Génova, & Conal D. McKeith.* 394, 552, 136-C1 (1992)

McKENZIE, D. L. Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

Variations in the Relative Elemental Abundances of Oxygen, Neon, Magnesium, and Iron in High-Temperature Solar Active-Region and Flare Plasmas. *D. L. McKenzie & U. Feldman.* 389, 764, 70-G7 (1992)

McLAUGHLIN, GAIL C. Dark Matter and Brown Dwarfs: Prospects for the Direct Detection of a Brown Dwarf Halo. *Ruth A. Daly & Gail C. McLaughlin.* 390, 423, 80-F1 (1992)

McLEAN, A. D. Calculations of Ion-Molecule Deuterium Fractionation Reactions Involving HD. *Sergio A. Maluendes, A. D. McLean, & Eric Herbst.* 397, 477, 176-F10 (1992)

McLEAN, I. Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

McLEAN, I. S. The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)

McLEOD, B. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

McMILLAN, STEVE. The Evolution of a Primordial Binary Population in a Globular Cluster. *Piet Hut, Steve McMillan, & Roger W. Romani.* 389, 527, 68-A8 (1992)

McNAMARA, BRIAN R. X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

Color Gradients in Cooling Flows in Clusters of Galaxies. *Brian R. McNamara & Robert W. O'Connell.* 393, 579, 123-B1 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

McTIERNAN, J. Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)

McWILLIAM, ANDREW. The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

MEADE, M. R. See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

MEADE, MARILYN R. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)

MEATHERINGHAM, STEPHEN J. The Kinematics of Planetary Nebulae in the Outer Fields of the Large Magellanic Cloud. *E. Vassiliadis, Stephen J. Meatheringham, & Michael A. Dopita.* 394, 489, 135-D7 (1992)

MEDIAVILLA, E. Bidimensional Spectroscopy of the Central Kiloparsec of NGC 4151. *E. Mediavilla, S. Arribas, & J. L. Rasilla.* 396, 517, 164-A1 (1992)

MEEGAN, CHARLES A. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

MEHRINGER, DAVID M. Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6–0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

MEIER, S. R. Fe II Fluorescence and Anomalous C IV Doublet Intensities in Symbiotic Novae. *A. G. Michalitsianos, M. Kafatos, & S. R. Meier.* 389, 649, 69-D12 (1992)

MEIKSIN, AVERY. Higher Order Correlations of *IRAS* Galaxies. *Avery Meiksin, Istvan Szapudi, & Alexander Szalay.* 394, 87, 129-B6 (1992)

The Shape of the Two-Point Correlation Function: Evidence for a Double Power Law. *Daniela Calzetti, Mauro Giavalisco, & Avery Meiksin.* 398, 429, 189-D7 (1992)

MEINHOLD, P. R. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

MEINHOLD, PETER. A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

MEINTJES, P. J. Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

MEIXNER, MARGARET. Mid-Infrared Imaging of Markarian 231 and Arp 220. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 387, L17, 43-B13 (1992)

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

MEIXNER, MARGARET M. Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89–0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

MELCHIORRI, B. Testing the Isotropy of the Cosmic Microwave Background: The ULISSE Experiment. *P. de Bernardis, S. Masi, F. Melchiorri, B. Melchiorri, & N. Vittorio.* 396, L57, 166-G1 (1992)

MELCHIORRI, F. On the Origin of the Dipole Anisotropy as Determined by Quadrupole Measurements. *S. Bottani, P. de Bernardis, & F. Melchiorri.* 384, L1, 6-A9 (1992)

Testing the Isotropy of the Cosmic Microwave Background: The ULISSE Experiment. *P. de Bernardis, S. Masi, F. Melchiorri, B. Melchiorri, & N. Vittorio.* 396, L57, 166-G1 (1992)

MELIA, FULVIO. The Bow Shock Structure of IRS 7: Wind-Wind Collision near the Galactic Center. *Farhad Yusef-Zadeh & Fulvio Melia.* 385, L41, 23-B13 (1992)

An Accreting Black Hole Model for Sagittarius A*. *Fulvio Melia.* 387, L25, 43-C10 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)

An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)

Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)

The Nucleus of M31. *Fulvio Melia.* 398, L95, 194-C8 (1992)

MELNICK, G. Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

MELOTT, ADRIAN L. Gravitational Clustering in the Expanding Universe: Controlled High-Resolution Studies in Two Dimensions: Erratum. *John Francis Beacom, Kurt G. Dominik, Adrian L. Melott, Sam P. Perkins, & Sergei F. Shandarin.* 384, 665, 10-D1 (1992) (Orig. paper in 372, 351, 80-B7 (1991))

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

The Void Spectrum in Two-dimensional Numerical Simulations of Gravitational Clustering. *Guinevere Kauffmann & Adrian L. Melott.* 393, 415, 121-B1 (1992)

The Three-Point Function in an Ensemble of Numerical Simulations. *J. N. Fry, Adrian L. Melott, & Sergei F. Shandarin.* 393, 431, 121-C5 (1992)

Coherent Structures in the Universe and the Adhesion Model. *Lev Kofman, Dmitri Pogosyan, Sergei F. Shandarin, & Adrian L. Melott.* 393, 437, 121-D1 (1992)

Does Faint Galaxy Clustering Contradict Gravitational Instability? *Adrian L. Melott.* 393, L45, 127-B1 (1992)

Can Neutrino Decay–driven Mock Gravity Save Hot Dark Matter? *Randall J. Splinter & Adrian L. Melott.* 394, 7, 128-B8 (1992)

Filamentary and Hierarchical Pictures: Kinetic Energy Criterion. *Anatoly A. Klypin & Adrian L. Melott.* 399, 397, 203-A1 (1992)

MELROSE, D. B. Energy Propagation into a Flare Kernel during a Solar Flare. *D. B. Melrose.* 387, 403, 42-A1 (1992)

X-Ray Emission from Single Magnetic Early-Type Stars. *V. V. Usov & D. B. Melrose.* 395, 575, 150-B1 (1992)

On "High Flyers" in Fermi Acceleration. *Lewis Ball, D. B. Melrose, & C. A. Norman.* 398, L65, 188-B7 (1992)

MELTZ, B. The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

MEMBRADO, M. A Description of Semidegenerate Self-gravitating Spheres of Fermions. *M. Membrado, A. F. Pacheco, & J. Sañudo.* 390, 88, 75-B7 (1992)

MENA-WERTH, JOSÉ. Carbon and Nitrogen Abundances Determined from Transition Layer Lines. *Erika Böhm-Vitense & José Mena-Werth.* 390, 253, 77-B4 (1992)

MENCI, N. Merging in Cosmic Structures. *A. Cavaliere, S. Colafrancesco, & N. Menci.* 392, 41, 101-E1 (1992)

MENDELSON, HAIM. The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)

MÉNDEZ, MARIANO. Dust within Globular Clusters: A Large Bubble in NGC 6624? *Juan C. Forte, Sergio A. Cellone, Mariano Méndez, & E. Irene Vega.* 388, 383, 55-B4 (1992)

MENDIS, D. A. A Three-dimensional Axisymmetric Photochemical Flow Model of the Cometary "Inner" Shock Layer. *M. C. Damas & D. A. Mendis.* 396, 704, 166-B1 (1992)

MENDOZA B., CÉSAR A. On the Thermal Structure and Stability of Configurations with Heat Diffusion and a Gain-Loss Function. I. General Results. *Miguel H. Ibáñez S., Antonio Parravano, & César A. Mendoza B.* 398, 177, 184-B1 (1992)

MENNELLA, V. Temperature Dependence of Infrared Bands Produced by Polycyclic Aromatic Hydrocarbons. *L. Colangeli, V. Mennella, & E. Bussoletti.* 385, 577, 20-C10 (1992)

Thermal Emission Spectra from Polycyclic Aromatic Hydrocarbon Molecules of Astrophysical Interest. *V. Mennella, L. Colangeli, & E. Bussoletti.* 391, L45, 92-D1 (1992)

Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

MENTEN, K. M. The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

MEREGHETTI, S. High-Resolution Optical Imaging of the Large Magellanic Cloud Plerion 0540–69. *P. A. Caraveo, G. F. Bignami, S. Mereghetti, & M. Mombelli.* 395, L103, 154-B11 (1992)

MEREGHETTI, SANDRO. On the Optical Counterpart of 1E 1207.4–5209, the Central X-Ray Source of a Ring-shaped Supernova Remnant. *Giovanni F. Bignami, Patrizia A. Caraveo, & Sandro Mereghetti.* 389, L67, 73-D5 (1992)

MERRITT, DAVID. Inferring the Mass of Spherical Stellar Systems from Velocity Moments. *Herwig Dejonghe & David Merritt.* 391, 531, 94-E6 (1992)

MERRYFIELD, W. J. Enhancement of Diffusive Transport in Oscillatory Flows. *E. Knobloch & W. J. Merryfield.* 401, 196, 223-E3 (1992)

MERRYFIELD, WILLIAM J. τ Pegasi: A Fourier Representation of Line-Profile Variations. *E. J. Kennelly, G. A. H. Walker, & William J. Merryfield.* 400, L71, 220-E8 (1992)

MÉSZÁROS, P. The Polar Cap Structure of the X-Ray Pulsar 4U 1538–52. *T. Bulik, P. Mészáros, J. W. Woo, F. Nagase, & K. Makishima.* 395, 564, 149-G9 (1992)

Tidal Heating and Mass Loss in Neutron Star Binaries: Implications for Gamma-Ray Burst Models. *P. Mészáros & M. J. Rees.* 397, 570, 178-A12 (1992)

MEWALDT, R. A. The Isotopic Composition of Cosmic-Ray B, C, N, and O: Evidence for an Overabundance of ^{18}O. *P. S. Gibner, R. A. Mewaldt, S. M. Schindler, E. C. Stone, & W. R. Webber.* 391, L89, 99-G5 (1992)

MEYER, B. S. *r*-Process Nucleosynthesis in the High-Entropy Supernova Bubble. *B. S. Meyer, G. J. Mathews, W. M. Howard, S. E. Woosley, & R. D. Hoffman.* 399, 656, 206-B1 (1992)

MEYER, BRADLEY S. Can a Closure Mass Neutrino Help Solve the Supernova Shock Reheating Problem? *George M. Fuller, R. Mayle, Bradley S. Meyer, & James R. Wilson.* 389, 517, 67-G10 (1992)

MEYER, DAVID M. Observations of Zn II, Cr II, Fe II, and Ca II in the Damped Lyman-Alpha Absorber at $z = 0.692$ toward 3C 286. *David M. Meyer & Donald G. York.* 399, L121, 207-G7 (1992)

MEYER, MICHAEL R. *IRAS* Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

MEYER, S. See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

MEYER, S. S. See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

MEYERS, KARIE A. The Optical Properties of IR-selected and Mg II Broad Absorption Line Quasars. *Todd A. Boroson & Karie A. Meyers.* 397, 442, 176-B13 (1992)

MEYHANDAN, R. Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

MEYLAN, G. Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

MEZZETTI, M. The Mass Distribution Function of Groups of Galaxies. *A. Pisani, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 389, 68, 61-A1 (1992)

Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)

MICELA, G. X-Ray Activity as Statistical Age Indicator: The Disk G–K Giants. *G. Micela, A. Maggio, & G. S. Vaiana.* 388, 171, 51-B5 (1992)

Time Variability Studies with Photon-counting Imaging Detectors. I. A Maximum Likelihood Technique. *S. Sciortino & G. Micela.* 388, 595, 57-E11 (1992)

Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

MICHALITSIANOS, A. G. Fe II Fluorescence and Anomalous C IV Doublet Intensities in Symbiotic Novae. *A. G. Michalitsianos, M. Kafatos, & S. R. Meier.* 389, 649, 69-D12 (1992)

MICHALITSIANOS, ANDREW G. See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

MICHAUD, GEORGES. Helium Gravitational Settling in the Envelopes of Evolving Main-Sequence A and F Stars. *Jacques Richer, Georges Michaud, & Charles R. Proffitt.* 82, 329, 54-A1 (1992)

MICHELSON, P. F. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*. *P. F. Michelson, D. L. Bertsch, J. Chiang, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, C. von Montigny, P. L. Nolan, K. Pinkau, H. Rothermel, E. Schneid, M. Sommer, P. Sreekumar, & D. J. Thompson.* 401, 724, 231-E1 (1992)

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

MIHALAS, DIMITRI. ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. III. The Radiation Hydrodynamic Algorithms and Tests. *James M. Stone, Dimitri Mihalas, & Michael L. Norman.* 80, 819, 34-E11 (1992)

MIHARA, T. *Ginga* Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

MIHOS, J. CHRISTOPHER. Models of Star Formation in Interacting and Merging Disk Galaxies. *J. Christopher Mihos, Douglas O. Richstone, & Gregory D. Bothun.* 400, 153, 210-G4 (1992)

MIKAMI, H. The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

MIKAMI, HITOMI. Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)

MILES, J. W. The High-Excitation Region of NGC 7027. *N. Rowlands, J. R. Houck, T. L. Hayward, & J. W. Miles.* 390, L93, 85-C1 (1992)

Another Neon Nova: Early Infrared Photometry and Spectroscopy of Nova Cygni 1992. *T. L. Hayward, R. D. Gehrz, J. W. Miles, & J. R. Houck.* 401, L101, 233-D5 (1992)

MILEY, G. K. *Hubble Space Telescope* Imaging of Distant Galaxies: 4C 41.17 at $z = 3.8$. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

MILEY, GEORGE K. Multicolor Images of Spatially Resolved Structures around High-Redshift Quasars. *Matthew D. Lehnert, Timothy M. Heckman, Kenneth C. Chambers, & George K. Miley.* 393, 68, 114-G12 (1992)

MILLAR, T. J. On the Molecular Complexity of the Hot Cores in Orion A: Grain Surface Chemistry as "The Last Refuge of the Scoundrel." *S. B. Charnley, A. G. G. M. Tielens, & T. J. Millar.* 399, L71, 201-A8 (1992)

MILLER, CHRISTOPHER O. Spectrophotometry of Bowen Resonance Fluorescence Lines in Three Planetary Nebulae. *C. R. O'Dell & Christopher O. Miller.* 390, 219, 76-F4 (1992)

MILLER, GUY S. Energy Dependence of Normal Branch Quasi-periodic Intensity Oscillations in Low-Mass X-Ray Binaries. *Guy S. Miller & Frederick K. Lamb.* 388, 541, 57-A5 (1992)

MILLER, H. RICHARD. The Optical Variability of PKS 2155–304. *Michael T. Carini & H. Richard Miller.* 385, 146, 13-G1 (1992)

MILLER, J. C. Rotational Properties of Strange Stars. *M. Colpi & J. C. Miller.* 388, 513, 56-F1 (1992)

MILLER, JAMES A. Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. I. Interaction with Parallel Transverse Cold Plasma Waves. *Jürgen Steinacker & James A. Miller.* 393, 764, 125-C10 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. II. Implications of Thermal Effects in a Solar Flare Plasma. *James A. Miller & Jürgen Steinacker.* 399, 284, 198-F12 (1992)

MILLER, JEFFREY. A Catalog of Faint A, F, and G Stars at the South Galactic Pole. *Phillip K. Lu, Jeffrey Miller, & Donald Platt.* 83, 203, 59-E3 (1992)

MILLER, JOHN. Northern Dwarf and Low Surface Brightness Galaxies. II. The Green Bank Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Jeffrey G. Mangum, & John Miller.* 81, 5, 35-B13 (1992)

MILLER, JOSEPH S. Detection of Obscured Broad-Line Regions in Four Seyfert 2 Galaxies. *Hien D. Tran, Joseph S. Miller, & Laura E. Kay.* 397, 452, 176-C12 (1992)

MILLER, R. H. Off-Center Nuclei in Galaxies. *R. H. Miller & B. F. Smith.* 393, 508, 122-B7 (1992)

MILLIKEN, BARRETT. The Isotopic Composition of Iron-Group Cosmic Rays. *Richard A. Leske, Barrett Milliken, & Mark E. Wiedenbeck.* 390, L99, 85-C7 (1992)

MILNE, D. K. G308.8–0.1: An Unusual Supernova Remnant Containing a Short-Period Pulsar, PSR J1341–6220. *J. L. Caswell, M. J. Kesteven, R. T. Stewart, D. K. Milne, & R. F. Haynes.* 399, L151, 208-D1 (1992)

MILONE, E. F. The Eclipsing Binary Al Phoenicis: New Results Based on an Improved Light Curve Analysis Program. *E. F. Milone, C. R. Stagg, & R. L. Kurucz.* 79, 123, 14-E11 (1992)

Modeling of the Eclipsing Binaries in the Globular Cluster NGC 5466. *J. Kallrath, E. F. Milone, & C. R. Stagg.* 389, 590, 68-G1 (1992)

MINEO, T. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

MINESHIGE, SHIN. Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)

Geometrically Thin, Hot Accretion Disks: Topology of the Thermal Equilibrium Curves. *Masaaki Kusunose & Shin Mineshige.* 392, 653, 110-D1 (1992)

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei: Erratum. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 399, 330, 199-E1 (1992) (Orig. paper in 384, 269, 4-C7 (1992))

MINK, D. Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

MINNITI, DANTE. Rotation of the Galactic Bulge. *Dante Minniti, Simon D. M. White, Edward W. Olszewski, & John M. Hill.* 393, L47, 127-B5 (1992)

MIRABEL, I. F. Possible Detection of a High-Velocity Neutral Wind in T Tauri. *Abraham Ruiz, José L. Alonso, & I. F. Mirabel.* 394, L57, 139-D7 (1992)

High-Velocity OH in Absorption: A New Tracer of Shocked Gas in Outflows? *A. Ruiz, L. F. Rodríguez, J. Cantó, & I. F. Mirabel.* 398, 139, 183-F3 (1992)

The Radio Counterpart of the Hard X-Ray Source GRS 1758–258. *L. F. Rodríguez, I. F. Mirabel, & J. Martí.* 401, L15, 227-C1 (1992)

MIRALDA-ESCUDÉ, J. Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

MIRALDA-ESCUDÉ, JORDI. Using Arcs in Clusters of Galaxies as Probes to Cluster Potentials and the Faint Blue Galaxies. *Jordi Miralda-Escudé.* 390, L65, 84-F7 (1992)

He I Absorption by Lyman-Alpha Clouds and Low-Redshift Lyman-Alpha Clouds. *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 392, 15, 101-C1 (1992)

MIRALLES, JUAN A. Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M^a. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

MIRANDA, LUIS F. The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

MITALAS, R. On the Photon Diffusion Time Scale for the Sun. *R. Mitalas & K. R. Sills.* 401, 759, 232-A1 (1992)

MITCHELL, GEORGE F. A CO $J = 2 \rightarrow 1$ Study of the Outflow Sources GL 490, GS 2591, M8E-IR, and W3 IRS 5. *George F. Mitchell, Tatsuhiko I. Hasegawa, & Jason Schella.* 386, 604, 32-G6 (1992)

MITRA, ABHAS. Is There a Recycled Old Pulsar in Cygnus X-3? *Abhas Mitra.* 384, 255, 4-B3 (1992)

What Drives the Mass Transfer in Cygnus X-3? *Abhas Mitra.* 390, 645, 83-C8 (1992)

MITSUDA, K. Simultaneous X-Ray and Radio Observations of GX 5–1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

MITSUI, K. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

MIYAJI, TAKAMITSU. The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

MIYAMA, SHOKEN M. Self-similar Solutions and the Stability of Collapsing Isothermal Filaments. *Shu-ichiro Inutsuka & Shoken M. Miyama.* 388, 392, 55-C1 (1992)

Collision and Tidal Interaction between Planetesimals. *Sei-ichiro Watanabe & Shoken M. Miyama.* 391, 318, 89-G11 (1992)

MIYAMOTO, SIGENORI. Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

Discovery and X-Ray Properties of GS 1124–683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)

MIYAZAKI, M. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

MIYAZAKI, S. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

MIYAZAWA, KEISUKE. See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

MIZOBUCHI, SEIKO. Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)

MIZUTANI, K. Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

MO, H. J. On the Error Estimates of Correlation Functions. *H. J. Mo, Y. P. Jing, & G. Börner.* 392, 452, 107-G13 (1992)

MOCHNACKI, STEFAN W. The GDDSYN Light Curve Synthesis Method. *Paul D. Hendry & Stefan W. Mochnacki.* 388, 603, 57-F7 (1992)

Photometric Imaging of VW Cephei. *Paul D. Hendry, Stefan W. Mochnacki, & Andrew Collier Cameron.* 399, 246, 198-C8 (1992)

MOFFAT, A. F. J. Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

MOFFAT, ANTHONY F. J. Polarization Variability among Wolf-Rayet Stars. VII. The Single Stars WR 14, WR 25, and WR 69. *Laurent Drissen, Carmelle Robert, & Anthony F. J. Moffat.* 386, 288, 27-F11 (1992)

See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

MOHAN, M. Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

MOHAN, VIJAY. The Edge of the Galactic Disk. *Annie C. Robin, Michel Crézé, & Vijay Mohan.* 400, L25, 214-D1 (1992)

MOLLERACH, SILVIA. The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

MOLNAR, LAWRENCE A. Superhump Timing in SU Ursae Majoris Systems: Implications of the Data for the Precessing Disk Model. *Lawrence A. Molnar & Henry A. Kobulnicky.* 392, 678, 110-F3 (1992)

MOMBELLI, M. High-Resolution Optical Imaging of the Large Magellanic Cloud Plerion 0540–69. *P. A. Caraveo, G. F. Bignami, S. Mereghetti, & M. Mombelli.* 395, L103, 154-B11 (1992)

MONETI, ANDREA. Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

MONIER, R. Possible First Detection of Ultraviolet Pulses from an Intermediate Polar: V603 Aquila. *A. Schwarzenberg-Czerny, A. Udalski, & R. Monier.* 401, L19, 227-C7 (1992)

MONK, A. S. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

MONTENEGRO, LUIS. Optical Tracers of Spiral Wave Resonances in Galaxies. II. Hidden Three-Arm Spirals in a Sample of 18 Galaxies. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Luis Montenegro.* 79, 37, 12-E9 (1992)

MOORE, MALA H. Far-Infrared Spectral Studies of Phase Changes in Water Ice Induced by Proton Irradiation. *Mala H. Moore & Reggie L. Hudson.* 401, 353, 225-D5 (1992)

MOORE, R. L. A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

MOOS, H. W. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

MOOS, H. WARREN. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

See VANCURA, OLAF, et al. Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope.

MORAAL, H. On the Form of the 1987 Hydrogen Spectrum in the Outer Heliosphere. *J. P. L. Reinecke & H. Moraal.* 392, 272, 104-D1 (1992)

MORAN, J. M. Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

MORELLO, C. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

MORENO, H. Ultraviolet Observations of the Symbiotic Star AS 296. *A. Gutiérrez-Moreno, H. Moreno, & W. A. Feibelman.* 395, 295, 143-G1 (1992)

MORFILL, G. E. On the Power Spectra of the Wind-fed X-Ray Binary Pulsar GX 301–2. *Mauro Orlandini & G. E. Morfill.* 386, 703, 34-A9 (1992)

Large Electric Fields in Acoustic Waves and the Stimulation of Lightning Discharges. *W. Pilipp, T. W. Hartquist, & G. E. Morfill.* 387, 364, 41-D13 (1992)

MORFILL, GREGOR. Magnetohydrodynamic Wave Damping by Cosmic-Ray Viscosity. *Ahmed Boulares & Gregor Morfill.* 400, 622, 218-B6 (1992)

MORGAN, D. H. Optical Spectroscopy of Magellanic Cloud Planetary Nebulae. III. *E. Vassiliadis, Michael A. Dopita, D. H. Morgan, & J. F. Bell.* 83, 87, 58-B1 (1992)

MORGAN, J. Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, I.99, 154-B1 (1992)

MORGAN, SIOBAHN M. An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

MORIARTY-SCHIEVEN, G. H. Circumprotostellar Environments. I. Molecular Outflows from Protostar Candidates in Taurus. *G. H. Moriarty-Schieven, P. G. Wannier, M. Tamura, & Jocelyn Keene.* 400, 260, 212-B10 (1992)

MORRELL, NIDIA. Spectroscopic Binaries in the α Persei Cluster. *Nidia Morrell & Helmut A. Abt.* 393, 666, 124-B1 (1992)

MORRIS, M. The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

MORRIS, MARK. A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1–0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

MORRIS, S. C. *Hubble Space Telescope* Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

MORRIS, S. L. The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

MORRIS, SIMON L. The Radio Properties of the Broad-Absorption-Line QSOs. *John T. Stocke, Simon L. Morris, Ray J. Weymann, & Craig B. Foltz.* 396, 487, 163-E5 (1992)

Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)

See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226–1024.

MORRISON, NANCY D. Non–LTE, Line-blanketed Model Atmospheres for Late O- and Early B-Type Stars. *James A. Grigsby, Nancy D. Morrison, & Lawrence S. Anderson.* 78, 205, 4-D9 (1992)

MORSE, JON A. The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

MORTON, D. C. See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

MORTON, DONALD C. Atomic Data for Resonance Absorption Lines. I. Wavelengths Longward of the Lyman Limit: Erratum. *Donald C. Morton.* 81, 883, 48-C9 (1992) (Orig. paper in 77, 119, 45-B1 (1991))

MORTON, SCOTT A. Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

MOSELEY, S. H. Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

MOSELEY, S. H., JR. See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

MOSHIR, M. Star Formation in Taurus. I. The *IRAS* Faint Source Survey. *C. A. Beichman, F. Boulanger, & M. Moshir.* 386, 248, 27-C5 (1992)

MOSKALIK, PAWEŁ. Toward a Resolution of the Bump and Beat Cepheid Mass Discrepancies. *Paweł Moskalik, J. Robert Buchler, & Ariel Marom.* 385, 685, 21-E13 (1992)

Pulsational Study of BL Herculis Models. I. Radial Velocities. *J. Robert Buchler & Paweł Moskalik.* 391, 736, 97-B6 (1992)

MOTCH, C. See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013–477).

MOUCHET, M. See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013–477).

MOULD, J. R. The Faintest Stars. *C. G. Tinney, J. R. Mould, & I. N. Reid.* 396, 173, 157-C6 (1992)

Peculiar Velocities of Clusters in the Perseus-Pisces Supercluster. *M. Han & J. R. Mould.* 396, 453, 163-B1 (1992)

The Age of the Small Magellanic Cloud Cluster Lindsay 11. *J. R. Mould, J. B. Jensen, & G. S. Da Costa.* 82, 489, 55-E11 (1992)

MOULD, JEREMY. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

MOULD, JEREMY R. Peculiar Velocities of Field Spiral Galaxies near and beyond the Great Attractor. *Gregory D. Bothun, Robert A. Schommer, T. B. Williams, Jeremy R. Mould, & J. P. Huchra.* 388, 253, 53-D10 (1992)

MOURI, HIDEAKI. Origin of Far-Infrared Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri & Yoshiaki Taniguchi.* 386, 68, 25-A1 (1992)

MOUSCHOVIAS, TELEMACHOS CH. Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

MOZURKEWICH, DAVID. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

MÜLLER-MELLIN, REINHOLD. Superevents: Their Origin and Propagation through the Heliosphere from 0.3 to 35 AU. *Wolfgang Dröge, Reinhold Müller-Mellin, & Edward W. Cliver.* 387, L97, 48-E10 (1992)

MUKAI, KOJI. On Martell and Kaitchuck's Model for the Intermediate Polar FO Aquarii. *Koji Mukai & Coel Hellier.* 391, 295, 89-E10 (1992)

Ginga Observations of the Dipping Low-Mass X-Ray Binaries XB 1916–053 and EXO 0748–676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)

MUKAI, T. Extremely Low Thermal Conductivity of Amorphous Ice: Relevance to Comet Evolution. *A. Kouchi, J. M. Greenberg, T. Yamamoto, & T. Mukai.* 388, L73, 59-D9 (1992)

MULCHAEY, J. S. An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)

MULCHAEY, JOHN S. Hard X-Ray Tests of the Unified Model for an Ultraviolet-detected Sample of Seyfert 2 Galaxies. *John S. Mulchaey, Richard F. Mushotzky, & Kimberly A. Weaver.* 390, L69, 84-G1 (1992)

The Kinematics of the Extended Gas in the Seyfert Galaxy NGC 3516. *John S. Mulchaey, Zlatan Tsvetanov, Andrew S. Wilson, & Ismael Pérez-Fournon.* 394, 91, 129-B11 (1992)

Infrared Emission in Seyfert 2 Galaxies: Reprocessed Radiation from a Dusty Torus? *Thaisa Storchi-Bergmann, John S. Mulchaey, & Andrew S. Wilson.* 395, L73, 153-F12 (1992)

MULLAN, D. J. Transient Periodicities in X-Ray–active Red Dwarfs: First Results from Mount Cuba and Interpretation with an Oscillating Loop Model. *D. J. Mullan, R. B. Herr, & S. Bhattacharyya.* 391, 265, 89-C1 (1992)

Limits on Detectability of Mass Loss from Cool Dwarfs. *D. J. Mullan, J. G. Doyle, R. O. Redman, & M. Mathioudakis.* 397, 225, 170-F12 (1992)

Three-dimensional Compressible Hydrodynamic Convection in the Sun and Stars: Erratum. *Murshed Hossain & D. J. Mullan.* 397, 353, 172-C5 (1992) (Orig. paper in 380, 631, 186-A10 (1991))

MULLER, RICHARD A. High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

MUMMA, MICHAEL J. The Effect of Electron Collisions on Rotational Populations of Cometary Water. *Xingfa Xie & Michael J. Mumma.* 386, 720, 34-C4 (1992)

Comet Outbursts and Polymers of HCN. *Terrence W. Rettig, Stephen C. Tegler, Daniel J. Pasto, & Michael J. Mumma.* 398, 293, 185-D5 (1992)

MUNARI, ULISSE. Are Symbiotic Stars the Precursors of Type Ia Supernovae? *Ulisse Munari & Alvio Renzini.* 397, L87, 181-B1 (1992)

MUNDY, LEE G. IRAS 16293–2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

Synthesis Imaging of the DR 21 (OH) Cluster. II. Thermal Ammonia and Water Maser Emission. *Jeffrey G. Mangum, Alwyn Wootten, & Lee G. Mundy.* 388, 467, 56-B6 (1992)

NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

MUNN, JEFFREY A. Stellar Population Gradients in Early-Type Galaxies. *Jeffrey A. Munn.* 399, 444, 203-E1 (1992)

MURAKAMI, H. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

MURAKAMI, K. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

MURAKI, Y. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4. *Y. Muraki, K. Murakami, M. Miyazaki, K. Mitsui, S. Shibata, S. Sakakibara, T. Sakai, T. Takahashi, T. Yamada, & K. Yamaguchi.* 400, L75, 220-F1 (1992)

MURALI, CHIGURUPATI. Analytical Potentials for Barred Galaxies. *Kevin Long & Chigurupati Murali.* 397, 44, 168-E9 (1992)

MURANTE, GIUSEPPE. A Simple Multifractal Model of Nonlinear Gravitational Clustering. *Antonello Provenzale, Piero Galeotti, Giuseppe Murante, & Barbara Villone.* 401, 455, 228-D1 (1992)

MURDOCK, T. See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

MURDOCK, T. L. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

MURPHY, BRIAN W. Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)

MURRAY, NORMAN. On the Inclination of Photospheric Solar Magnetic Fields. *Norman Murray.* 401, 386, 225-G5 (1992)

MURRAY, STEPHEN D. The Formation of Coronal Regions in Accretion Disks. *Stephen D. Murray & Douglas N. C. Lin.* 384, 177, 3-B9 (1992)

Star Formation in Protogalactic Clouds. *Douglas N. C. Lin & Stephen D. Murray.* 394, 523, 135-G8 (1992)

Characteristic-based Models for the Evolution of Cooling Flows. *Stephen D. Murray & Steven A. Balbus.* 395, 99, 141-C11 (1992)

Globular Cluster Formation: The Fossil Record. *Stephen D. Murray & Douglas N. C. Lin.* 400, 265, 212-C3 (1992)

MURTHY, JAYANT. The Low Filling Factor of Dust in the Galaxy. *Jayant Murthy, H. J. Walker, & R. C. Henry.* 401, 574, 229-F8 (1992)

MURZINA, MARINA. Shock Wave Emergence at the Stellar Surface and the Subsequent Gas Expansion into a Vacuum: The Sphericity Involvement. *Ya. M. Kazhdan & Marina Murzina.* 400, 192, 211-C9 (1992)

MUSHOTZKY, R. F. An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

MUSHOTZKY, RICHARD. Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)

MUSHOTZKY, RICHARD F. Hard X-Ray Tests of the Unified Model for an Ultraviolet-detected Sample of Seyfert 2 Galaxies. *John S. Mulchaey, Richard F. Mushotzky, & Kimberly A. Weaver.* 390, L69, 84-G1 (1992)

Cross-Correlation of the X-Ray Background with Nearby Galaxies: Erratum. *Keith Jahoda, Ofer Lahav, Richard F. Mushotzky, & Elihu Boldt.* 399, L107, 201-E8 (1992) (Orig. paper in 378, L37, 162-D7 (1991))

MUSIELAK, Z. E. A Regularization Method for Extrapolation of Solar Potential Magnetic Fields. *G. Allen Gary & Z. E. Musielak.* 392, 722, 111-C1 (1992)

A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

MUTEL, R. L. The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

MUTOH, HARUHIKO. Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)

MYERS, P. C. Dense Cores in Dark Clouds. VII. Line Width–Size Re'ations. *G. A. Fuller & P. C. Myers.* 384, 523, 8-F1 (1992)

Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)

Density Structure and Star Formation in Dense Cores with Thermal and Nonthermal Motions. *P. C. Myers & G. A. Fuller.* 396, 631, 165-C1 (1992)

MYERS, PHILIP C. The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)

MYHILL, ELIZABETH A. Numerical Models for the Collapse and Fragmentation of Centrally Condensed Molecular Cloud Cores. *Elizabeth A. Myhill & William M. Kaula.* 386, 578, 32-E4 (1992)

Protostellar Hydrodynamics: Constructing and Testing a Spatially and Temporally Second-Order–accurate Method. I. Spherical Coordinates. *Alan P. Boss & Elizabeth A. Myhill.* 83, 311, 62-B13 (1992)

NAGASE, F. X-Ray Scattering and Fluorescence in the Wind of a Massive X-Ray Binary. *W. Lewis, S. Rappaport, A. Levine, & F. Nagase.* 389, 665, 69-F3 (1992)

The Polar Cap Structure of the X-Ray Pulsar 4U 1538–52. *T. Bulik, P. Mészáros, J. W. Woo, F. Nagase, & K. Makishima.* 395, 564, 149-G9 (1992)

Ginga Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

Ginga Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)

NAGASE, FUMIAKI. The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

NAHAR, S. N. Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

NAHAR, SULTANA N. New Results for Photoionization and Recombination of Astrophysically Abundant Atoms and Ions: The Carbon Sequence. *Sultana N. Nahar & Anil K. Pradhan.* 397, 729, 180-B10 (1992)

NAKAI, N. Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)

NAKAMURA, HIROSHI. Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)

NANDRA, K. See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

NANDY, GOPAL CH. Viscous Fluid in a Five-dimensional Cosmological Model. *Subenoy Chakraborty & Gopal Ch. Nandy.* 401, 437, 228-B6 (1992)

NARAYAN, RAMESH. The Stability of Accretion Tori. IV. Fission and Fragmentation of Slender, Self-gravitating Annuli. *Dimitris M. Christodoulou & Ramesh Narayan.* 388, 451, 56-A1 (1992)

Supersonic Infall and Causality in Accretion Disk Boundary Layers. *Robert Popham & Ramesh Narayan.* 394, 255, 131-B10 (1992)

A Flux-limited Model of Particle Diffusion and Viscosity. *Ramesh Narayan.* 394, 261, 131-C3 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

Determination of Lens Parameters from Gravitationally Lensed Gamma-Ray Bursts. *Ramesh Narayan & Sylvanie Wallington.* 399, 368, 202-E1 (1992)

LensClean: An Algorithm for Inverting Extended, Gravitationally Lensed Images with Application to the Radio Ring Lens PKS 1830–211. *Christopher S. Kochanek & Ramesh Narayan.* 401, 461, 228-D8 (1992)

NARAYANAN, AJAY. A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

NARISAWA, TAKATOSHI. Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

NARLIKAR, JAYANT V. Statistical Tests of Peaks and Periodicities in the Observed Redshift Distribution of Quasi-stellar Objects. *Debiprosad Duari, Patrick Das Gupta, & Jayant V. Narlikar.* 384, 35, 1-D9 (1992)

NASH, A. G. A New Determination of the Solar Rotation Rate. *N. R. Sheeley, Jr., Y.-M. Wang, & A. G. Nash.* 401, 378, 225-F9 (1992)

NATHER, R. E. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

NATTA, A. Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

NATTA, ANTONELLA. Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

NAVARRA, G. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

NAVARRETE, MAURICIO. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

NECKEL, TH. The FU Orionis–Type Spectrum and Bipolar Outflow of Parsamyan 21. *H. J. Staude & Th. Neckel.* 400, 556, 217-C6 (1992)

NEDOLUHA, G. E. VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 392, 249, 104-A9 (1992)

VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 399, 743, 207-C1 (1992) (Orig. paper in 392, 249, 104-A9 (1992))

NEDOLUHA, GERALD E. The Zeeman Effect in Astrophysical Water Masers and the Observation of Strong Magnetic Fields in Regions of Star Formation. *Gerald E. Nedoluha & William D. Watson.* 384, 185, 3-C5 (1992)

NEFF, SUSAN G. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

NEGORO, HITOSHI. Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

NEL, H. I. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

NELSON, BRANT. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

NELSON, BRANT O. A Photometric Search for [O II] Lines in Mg II Quasar Absorption Systems. *Brant O. Nelson & Matthew A. Malkan.* 82, 447, 55-B1 (1992)

NELSON, GRAHAM J. First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

NÉMETH, ZS. Origin of ^{180m}Ta and the Temperature of the *s*-Process. *Zs. Németh, F. Käppeler, & G. Reffo.* 392, 277, 104-D7 (1992)

NERI, J. A. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

NESIS, A. Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

NEUFELD, DAVID A. Problems with the Standard Theory of Three-dimensional Masers. *David A. Neufeld.* 393, L37, 120-F1 (1992)

NEUGEBAUER, G. High Spatial Resolution Continuum and Hα Imaging of the High-Redshift *IRAS* Source FSC 10214+4724. *B. T. Soifer, G. Neugebauer, K. Matthews, C. Lawrence, & J. Mazzarella.* 399, L55, 200-F1 (1992)

NEUPERT, WERNER M. Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

NEWBERG, HEIDI JO MARVIN. High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

NEWMAN, ALICE L. Initiation of Bipolar Flows by Magnetic Field Twisting in Protostellar Nebulae. *William I. Newman, Alice L. Newman, & Richard V. E. Lovelace.* 392, 622, 110-A1 (1992)

NEWMAN, WILLIAM I. Initiation of Bipolar Flows by Magnetic Field Twisting in Protostellar Nebulae. *William I. Newman, Alice L. Newman, & Richard V. E. Lovelace.* 392, 622, 110-A1 (1992)

NGUYEN-Q-RIEU. High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

A Survey for Extragalactic HCN and HCO^+. *Nguyen-Q-Rieu, James M. Jackson, Christian Henkel, Truong-Bach, & Rainer Mauersberger.* 399, 521, 204-D1 (1992)

NICE, D. J. Pulsar PSR 1744−24A: Timing, Eclipses, and the Evolution of Neutron Star Binaries. *D. J. Nice & S. E. Thorsett.* 397, 249, 171-A12 (1992)

NICHOL, ROBERT C. The Distribution of Rich Clusters of Galaxies in the South Galactic Pole Region. *Luigi Guzzo, Chris A. Collins, Robert C. Nichol, & Stuart L. Lumsden.* 393, L5, 120-B1 (1992)

NICHOLS, GRANVILLE R. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

NICHOLS-BOHLIN, JOY. Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

NICHOLSON, RICHARD A. The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

NICOLSON, G. See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.

NICOLSON, GEORGE. The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

NIEL, M. Gamma-Ray Bursts and Radio Pulsar Glitches. *D. Hartmann, K. Hurley, & M. Niel.* 387, 622, 46-D1 (1992)

See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

NIEMELA, VIRPI S. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

NIETO, J.-L. Asymptotic Giant Branch Stars in the Central Regions of M32. *T. J. Davidge & J.-L. Nieto.* 391, L13, 92-A1 (1992)

NISHIDA, SHOGO. General Relativistic Structure of Star-Toroid Systems. *Shogo Nishida, Yoshiharu Eriguchi, & Antonio Lanza.* 401, 618, 230-C1 (1992)

NISINI, B. Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

NITTA, SHIN-YA. Accretion in a Kerr Black Hole Magnetosphere: Energy and Angular Momentum Transport between the Magnetic Field and the Matter. *Kouichi Hirotani, Masaaki Takahashi, Shin-ya Nitta, & Akira Tomimatsu.* 386, 455, 31-A11 (1992)

NOCI, G. Steady Siphon Flows in Closed Coronal Structures: Comparison with Extreme-Ultraviolet Observations. *G. Peres, D. Spadaro, & G. Noci.* 389, 777, 71-A8 (1992)

NODA, M. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

NOGUCHI, K. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

NOH, HYERIM. An Examination of the $m = 1$ Instability in a Low-Mass Protoplanetary Disk. *Hyerim Noh, Ethan T. Vishniac, & William D. Cochran.* 397, 347, 172-B11 (1992)

NOLAN, P. L. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

NOMACHI, M. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

NOMOTO, K. The Ring around SN 1987A and Rotation of the Progenitor. *Y. Eriguchi, H. Yamaoka, K. Nomoto, & M. Hashimoto.* 392, 243, 104-A1 (1992)

NOMOTO, KEN'ICHI. Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

NORDLUND, ÅKE. Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

NORDSIECK, K. H. The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

NORDSIECK, KENNETH H. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

NORMAN, C. A. On "High Flyers" in Fermi Acceleration. *Lewis Ball, D. B. Melrose, & C. A. Norman.* 398, L65, 188-B7 (1992)

NORMAN, MICHAEL L. Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

Numerical Simulations of Hydrodynamical Jets Crossing a Galactic Halo/Intracluster Medium Interface. *Paul J. Wiita & Michael L. Norman.* 385, 478, 19-B7 (1992)

Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

A Test Suite for Magnetohydrodynamical Simulations. *James M. Stone, John F. Hawley, Charles R. Evans, & Michael L. Norman.* 388, 415, 55-E1 (1992)

The Magnetic Collimation of Bipolar Outflows. I. Adiabatic Simulations. *James M. Stone & Michael L. Norman.* 389, 297, 63-F1 (1992)

The Three-dimensional Interaction of a Supernova Remnant with an Interstellar Cloud. *James M. Stone & Michael L. Norman.* 390, L17, 78-C11 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. I. The Hydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 753, 33-G3 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. II. The Magnetohydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 791, 34-C5 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. III. The Radiation Hydrodynamic Algorithms and Tests. *James M. Stone, Dimitri Mihalas, & Michael L. Norman.* 80, 819, 34-E11 (1992)

Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)

Three-dimensional Hydrodynamic Simulations of Narrow-Angle–Tail Radio Sources. I. The Begelman, Rees, and Blandford Model. *Dinshaw S. Balsara & Michael L. Norman.* 393, 631, 123-F3 (1992)

VLA Observations of the Inner Lobes of Centaurus A. *David A. Clarke, Jack O. Burns, & Michael L. Norman.* 395, 444, 147-G7 (1992)

Spatial Stability of the Magnetized Slab Jet. *Philip E. Hardee, Michael A. Cooper, Michael L. Norman, & James M. Stone.* 399, 478, 203-G11 (1992)

NORRIS, J. P. Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

NORRIS, JOHN E. Evolution of Beryllium Abundances in the Galactic Halo. *Sean G. Ryan, John E. Norris, M. S. Bessell, & Constantine P. Deliyannis.* 388, 184, 51-C6 (1992)

NORTH, A. R. Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

NOTA, A. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

NOTA, ANTONELLA. Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

NOUSEK, J. Discovery of X-Ray Emission Associated with the Gum Nebula. *D. A. Leahy, J. Nousek, & G. Garmire.* 385, 561, 20-B4 (1992)

NOUSEK, J. A. X-Ray Observations of Planetary Nebulae with Binary Nuclei. *K. M. V. Apparao, G. D. Berthiaume, & J. A. Nousek.* 397, 534, 177-E5 (1992)

The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V. Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

NOVAK, G. High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

NOVELLO, JOSEPH. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

NOVIKOV, B. See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

NOWAK, MICHAEL A. Diskoseismology: Probing Accretion Disks. II. *G*-Modes, Gravitational Radiation Reaction, and Viscosity. *Michael A. Nowak & Robert V. Wagoner.* 393, 697, 124-E1 (1992)

NOYES, ROBERT. Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

NOZAWA, S. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

NUSSER, ADI. Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

NUSSINOV, SHMUEL. Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Amon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)

O'CONNELL, ROBERT W. X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

Color Gradients in Cooling Flows in Clusters of Galaxies. *Brian R. McNamara & Robert W. O'Connell.* 393, 579, 123-B1 (1992)

See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

Spectral Synthesis in the Ultraviolet. IV. A Library of Mean Stellar Groups. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 82, 197, 52-A1 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

O'DELL, C. R. Motion at the Ionization Front in the Orion Nebula: A Kinematic Study of the [O I] Line. *C. R. O'Dell & Zheng Wen.* 387, 229, 39-F10 (1992)

Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

Spectrophotometry of Bowen Resonance Fluorescence Lines in Three Planetary Nebulae. *C. R. O'Dell & Christopher O. Miller.* 390, 219, 76-F4 (1992)

Extinction and Scattering in the Orion Nebula: Comparison of Optical and VLA 21 Centimeter Studies. *C. R. O'Dell, Donald K. Walter, & Reginald J. Dufour.* 399, L67, 200-G12 (1992)

ODENWALD, STEN. The Unusual Cometary Star-forming Region G110–13. *Sten Odenwald, Jacqueline Fischer, Felix J. Lockman, & Sally Stemwedel.* 397, 174, 170-B9 (1992)

ODEWAHN, S. C. Mean Galaxy Luminosity Classifications. *S. C. Odewahn & G. de Vaucouleurs.* 83, 65, 57-G1 (1992)

O'DONOGHUE, D. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

ÖGELMAN, HAKKI. On the Role of Radioactive Decays in Powering Gamma Rays and X-Rays from Novae. *Mario Livio, Apostolos Mastichiadis, Hakki Ögelman, & James W. Truran.* 394, 217, 130-F5 (1992)

ROSAT Observations of PSR 0656+14: A Pulsating and Cooling Neutron Star. *John P. Finley, Hakki Ögelman, & Ümit Kiziloğlu.* 394, L21, 133-C13 (1992)

Rotational Parameters of PSR 0540–69 as Measured at Optical Wavelengths. *Christian Gouiffes, John P. Finley, & Hakki Ögelman.* 394, 581, 136-E8 (1992)

OERTEL, G. K. What Caused an Unusually Broad He I 10830 Å Emission Line in a Solar Limb Flare? *J. Q. You & G. K. Oertel.* 389, L33, 66-E1 (1992)

OFFENBERG, JOEL D. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

O'FLAHERTY, K. S. A Search for TeV Emission from Cygnus X-3. *K. S. O'Flaherty, M. F. Cawley, D. J. Fegan, R. C. Lamb, M. J. Lang, D. A. Lewis, M. Punch, P. T. Reynolds, G. Vacanti, & T. C. Weekes.* 396, 674, 165-F9 (1992)

OGATA, S. Pycnonuclear Reaction Rates for Binary Ionic Mixtures. *S. Ichimaru, S. Ogata, & H. M. Van Horn.* 401, L35, 227-E7 (1992)

OGATA, T. Microwave Spectra and Electric Dipole Moments for Low-*J* Levels of Interstellar Radicals: SO, C_2S, C_3S, c-HC_3, CH_2CC, and c-C_3H_2. *F. J. Lovas, R. D. Suenram, T. Ogata, & S. Yamamoto.* 399, 325, 199-D7 (1992)

OGURA, K. Spectacular Herbig-Haro Objects in the Carina Region. *K. Ogura & J. R. Walsh.* 400, 248, 212-A7 (1992)

OH, K. S. Tidal Evolution of Globular Clusters. I. Method. *K. S. Oh, D. N. C. Lin, & S. J. Aarseth.* 386, 506, 31-F4 (1992)

Tidal Evolution of Globular Clusters. II. The Effects of Galactic Tidal Field and Diffusion. *K. S. Oh & D. N. C. Lin.* 386, 519, 31-G5 (1992)

OHASHI, T. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

OHISHI, MASATOSHI. Detection of Isocyanoacetylene HCCNC in TMC-1. *Kentarou Kawaguchi, Masatoshi Ohishi, Shin-ichi Ishikawa, & Norio Kaifu.* 386, L51, 36-C10 (1992)

A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).

See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

OHSHIMA, YASUHIRO. See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

OJHA, P. C. The Oscillator Strength of the Si II $3s^23p\ ^2P$–$3s3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)

OKAMURA, SADANORI. A Study of the Velocity Field in the Local Supercluster Based on a New Peculiar-Velocity Sample. *Kazuhiro Shimasaku & Sadanori Okamura.* 398, 441, 189-E9 (1992)

OKE, J. B. Lyman-Alpha Emission from the Damped Lyman-Alpha System toward H0836+113. *A. M. Wolfe, D. A. Turnshek, K. M. Lanzetta, & J. B. Oke.* 385, 151, 13-G7 (1992)

CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

OKITA, K. Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

OLIVA, ERNESTO. Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

OLIVE, J. F. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

OLIVER, R. Magnetohydrodynamic Waves in a Solar Prominence. *R. Oliver, J. L. Ballester, A. W. Hood, & E. R. Priest.* 400, 369, 213-E1 (1992)

OLIVERSEN, R. An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

OLIVERSEN, R. J. The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)

OLIVERSEN, RONALD J. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

OLSZEWSKI, EDWARD W. Rotation of the Galactic Bulge. *Dante Minniti, Simon D. M. White, Edward W. Olszewski, & John M. Hill.* 393, L47, 127-B5 (1992)

OMODAKA, TOSHIHIRO. On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)

OMONT, A. Protonated Acetylene: An Important Circumstellar and Interstellar Ion. *A. E. Glassgold, A. Omont, & M. Guélin.* 396, 115, 156-E5 (1992)

OMOTE, MINORU. Gravitational Lens Effects on the Density Parameter. *Hiroshi Yoshida & Minoru Omote.* 388, L1, 52-A7 (1992)

ONAKA, TAKASHI. Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

O'NEILL, TERRENCE J. Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Aït-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

ONUORA, L. I. Compact Steep Spectrum Sources and Linear Size Evolution. *L. I. Onuora.* 386, 452, 31-A7 (1992)

OPAL, CHET B. Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

OREN, A. L. Magnetic Fields in Damped Lyα Systems. *A. M. Wolfe, K. M. Lanzetta, & A. L. Oren.* 388, 17, 49-C5 (1992)

ORLANDINI, M. *EXOSAT* Observations of the X-Ray Binary Pulsar 4U 1538–52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

ORLANDINI, MAURO. On the Power Spectra of the Wind-fed X-Ray Binary Pulsar GX 301–2. *Mauro Orlandini & G. E. Morfill.* 386, 703, 34-A9 (1992)

ORRALL, F. Q. Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

Coronal Density and Temperature Structure from Coordinated Observations Associated with the Total Solar Eclipse of 1988 March 18. *M. Guhathakurta, G. J. Rottman, R. R. Fisher, F. Q. Orrall, & R. C. Altrock.* 388, 633, 58-B1 (1992)

ORWIG, L. E. Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

OSMER, S. See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

OSTERBROCK, DONALD E. Near-Infrared Spectra and Classification Diagnostics of Seyfert Galaxies. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 196, 62-D7 (1992)

Faint Emission Lines in the Spectrum of the Orion Nebula and the Abundances of Some of the Rarer Elements. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 305, 63-F11 (1992)

OSTERHELD, A. A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

OSTERHELD, ALBERT L. X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)

OSTRIKER, EVE C. Near-resonant Excitation and Propagation of Eccentric Density Waves by External Forcing. *Eve C. Ostriker, Frank H. Shu, & Fred C. Adams.* 399, 192, 197-E13 (1992)

OSTRIKER, J. P. Galactic Disks, Infall, and the Global Value of Ω. *G. Tóth & J. P. Ostriker.* 389, 5, 60-B6 (1992)

Light Element Nucleosynthesis: A False Clue? *N. Yu. Gnedin & J. P. Ostriker.* 400, 1, 209-A13 (1992)

OSTRIKER, JEREMIAH. A Hydrodynamic Treatment of the Cold Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah Ostriker.* 393, 22, 114-C12 (1992)

OSTRIKER, JEREMIAH P. A Self-consistent Field Method for Galactic Dynamics. *Lars Hernquist & Jeremiah P. Ostriker.* 386, 375, 30-B6 (1992)

Would a Galactic Bar Destroy the Globular Cluster System? *Kevin Long, Jeremiah P. Ostriker, & Luis Aguilar.* 388, 362, 54-G8 (1992)

He I Absorption by Lyman-Alpha Clouds and Low-Redshift Lyman-Alpha Clouds. *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 392, 15, 101-C1 (1992)

Statistics of the Cosmic Mach Number from Numerical Simulations of a Cold Dark Matter Universe. *Yasushi Suto, Renyue Cen, & Jeremiah P. Ostriker.* 395, 1, 140-B1 (1992)

A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

A Three-dimensional Hydrodynamic Treatment of the Hot Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah P. Ostriker.* 399, 331, 202-B1 (1992)

Galaxy Formation and Physical Bias. *Renyue Cen & Jeremiah P. Ostriker.* 399, L113, 207-F7 (1992)

OSWALT, T. D. The Binary System L151–81A/B: A Potential Test of Accretion Theory. *M. A. Wood & T. D. Oswalt.* 394, L53, 139-D1 (1992)

OTANI, C. See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

OU, K.-T. Power Spectra of Median- and Small-Scale Solar Convection. *D.-Y. Chou, C.-S. Chen, K.-T. Ou, & C.-C. Wang.* 396, 333, 159-B11 (1992)

OWEN, FRAZER N. A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

OWEN, J. MICHAEL. Imaging Spectrophotometry of the Orion Nebula Core. I. Emission-Line Mapping and Physical Conditions. *Richard W. Pogge, J. Michael Owen, & Bruce Atwood.* 399, 147, 197-A9 (1992)

OZIER, I. Submillimeter Spectrum of Low-Temperature Hydrogen: The Pure Translational Band of H_2 and the $R(0)$ Line of HD. *E. H. Wishnow, I. Ozier, & H. P. Gush.* 392, L43, 106-F1 (1992)

PACHECO, A. F. A Description of Semidegenerate Self-gravitating Spheres of Fermions. *M. Membrado, A. F. Pacheco, & J. Sañudo.* 390, 88, 75-B7 (1992)

PACHOLCZYK, A. G. Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

PACIESAS, WILLIAM S. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

PACZYŃSKI, B. Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)

PACZYŃSKI, BOHDAN. Local Distribution of Old Neutron Stars. *Zsolt Frei, Xiaolan Huang, & Bohdan Paczyński.* 384, 105, 2-C10 (1992)

Caustic-induced Features in Microlensing Magnification Probability Distributions. *Kevin P. Rauch, Shude Mao, Joachim Wambsganss, & Bohdan Paczyński.* 386, 30, 24-D10 (1992)

On the Cosmological Origin of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 388, L45, 59-A9 (1992)

On the Galactic Disk and Halo Models of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 389, L13, 66-C1 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

A Direct Gravitational Lensing Test for 10^6 $M_\odot$ Black Holes in Halos of Galaxies. *Joachim Wambsganss & Bohdan Paczyński.* 397, L1, 173-A8 (1992)

PADMAN, R. Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

PADOVANI, P. Luminosity Functions, Relativistic Beaming, and Unified Theories of High-Luminosity Radio Sources. *P. Padovani & C. M. Urry.* 387, 449, 44-C9 (1992)

PAGE, DANY. The Cooling of Neutron Stars by the Direct Urca Process. *Dany Page & James H. Applegate.* 394, L17, 133-C7 (1992)

PALAZZI, E. CN Rotational Excitation. *E. Palazzi, N. Mandolesi, & Philippe Crane.* 398, 53, 182-F5 (1992)

PALLA, FRANCESCO. Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

The Evolution of Intermediate-Mass Protostars. II. Influence of the Accretion Flow. *Francesco Palla & Steven W. Stahler.* 392, 667, 110-E5 (1992)

PALMER, PATRICK. High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6−0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

PALUMBO, G. G. C. X-Ray Luminosity and Spectral Variability of Hard X-Ray–selected Active Galactic Nuclei. *P. Grandi, G. Tagliaferri, P. Giommi, P. Barr, & G. G. C. Palumbo.* 82, 93, 50-C9 (1992)

PALUMBO, GIORGIO G. C. Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

PAN, XIAOPEI. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison. *Xiaopei Pan, Michael Shao, M. Mark Colavita, J. Thomas Armstrong, David Mozurkewich, Maddali Vivekanand, Craig S. Denison, Richard S. Simon, & Kenneth J. Johnston.* 384, 624, 9-G9 (1992)

PANAGIA, N. Properties of the SN 1987A Circumstellar Ring and the Distance to the Large Magellanic Cloud: Erratum. *N. Panagia, R. Gilmozzi, F. Macchetto, H.-M. Adorf, & R. P. Kirshner.* 386, L31, 29-E1 (1992) (Orig. paper in 380, L23, 181-D1 (1991))

Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

PANAGIA, NINO. The 20 and 6 Centimeter Radio Light Curves for SN 1981K: A Type II Radio Supernova. *Schuyler D. Van Dyk, Kurt W. Weiler, Richard A. Sramek, & Nino Panagia.* 396, 195, 157-E4 (1992)

Full Evolution of the 6 and 20 Centimeter Radio Emission from SN 1980K. *Kurt W. Weiler, Schuyler D. Van Dyk, Nino Panagia, & Richard A. Sramek.* 398, 248, 184-G9 (1992)

Evidence for Periodic Modulation of Presupernova Mass Loss from the Progenitor of SN 1979C. *Kurt W. Weiler, Schuyler D. Van Dyk, James E. Pringle, & Nino Panagia.* 399, 672, 206-C5 (1992)

The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

PANCHAPAKESAN, N. Photodissociation in Strong Magnetic Fields and Application to Pulsars. *V. B. Bhatia, Namrata Chopra, & N. Panchapakesan.* 388, 131, 50-F1 (1992)

PANEK, MIROSŁAW. Cosmic Background Radiation Anisotropies from Cosmic Structures: Models Based on the Tolman Solution. *Mirosław Panek.* 388, 225, 53-B4 (1992)

PARDI, CHIARA. Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

PARESCE, F. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

PARESCE, FRANCESCO. The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*. *Denis Burgarella & Francesco Paresce.* 389, L29, 66-D10 (1992)

The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*: Erratum. *Denis Burgarella & Francesco Paresce.* 395, L123, 154-D13 (1992) (Orig. paper in 389, L29, 66-D10 (1992))

PARISE, RONALD A. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

PARK, CHANGBOM. The Topology of Large-Scale Structure. V. Two-dimensional Topology of Sky Maps. *J. Richard Gott III, Shude Mao, Changbom Park, & Ofer Lahav.* 385, 26, 12-D1 (1992)

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

Large-Scale Clustering of Galaxies in the CfA Redshift Survey. *Michael S. Vogeley, Changbom Park, Margaret J. Geller, & John P. Huchra.* 391, L5, 91-G1 (1992)

Large-Scale Structure in the Southern Sky Redshift Survey. *Changbom Park, J. Richard Gott III, & L. Nicolaci da Costa.* 392, L51, 113-B6 (1992)

The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

PARKER, E. N. Vortex Attraction and the Formation of Sunspots. *E. N. Parker.* 390, 290, 77-E8 (1992)

Fast Dynamos, Cosmic Rays, and the Galactic Magnetic Field. *E. N. Parker.* 401, 137, 222-F7 (1992)

PARKER, JOEL WM. Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

Two-Stage Starbursts in the Large Magellanic Cloud: N11 as a Once and Future 30 Doradus. *Nolan R. Walborn & Joel Wm. Parker.* 399, L87, 201-C5 (1992)

PARKER, ROBERT A. R. See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

PARLIER, B. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

PARRAVANO, ANTONIO. On the Thermal Structure and Stability of Configurations with Heat Diffusion and a Gain-Loss Function. I. General Results. *Miguel H. Ibáñez S., Antonio Parravano, & César A. Mendoza B.* 398, 177, 184-B1 (1992)

PASTO, DANIEL J. Comet Outbursts and Polymers of HCN. *Terrence W. Rettig, Stephen C. Tegler, Daniel J. Pasto, & Michael J. Mumma.* 398, 293, 185-D5 (1992)

PASTORIZA, M. G. Optical Spectroscopy and Narrow-Band Images of the Variable Seyfert 1 Galaxy NGC 3783. *Claudia Winge, M. G. Pastoriza, T. Storchi-Bergmann, & S. Lípari.* 393, 98, 115-C11 (1992)

PATEL, L. K. Cylindrical Universes with Heat and Null Radiation Flow. *L. K. Patel & Naresh Dadhich.* 401, 433, 228-B1 (1992)

PATTERSON, J. Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

PATTERSON, JOSEPH. On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)

The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)

PATTERSON, RICHARD J. UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

PAUBERT, GABRIEL. Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

PAUL, J. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524–62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731–260.

PAULS, THOMAS A. Fine-Scale Structure in the -185 Kilometers per Second Absorption by HCO^+ in the Galactic Center. *Jonathan M. Marr, Alexander L. Rudolph, Thomas A. Pauls, Melvyn C. H. Wright, & Donald C. Backer.* 400, L29, 214-D5 (1992)

PAVLAKIS, KONSTANTINOS G. Interacting H_2O Masers in Star-forming Regions. *Nikolaos D. Kylafis & Konstantinos G. Pavlakis.* 400, 344, 213-B12 (1992)

PAVLENKO, YAKOV V. Lithium Abundances in Classical and Weak T Tauri Stars. *Antonio Magazzù, Rafael Rebolo, & Yakov V. Pavlenko.* 392, 159, 103-A1 (1992)

PAZDER, JOHN. The Luminosity of Supernovae of Type Ia. I. Apparent Magnitudes at Maximum Light. *Sidney van den Bergh & John Pazder.* 390, 34, 74-D13 (1992)

PEARSON, T. J. The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

PEI, YICHUAN C. Interstellar Dust from the Milky Way to the Magellanic Clouds. *Yichuan C. Pei.* 395, 130, 141-G1 (1992)

PEIMBERT, M. Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

PELLAT, R. Swinging Spiral Waves and Alfvén Turbulence in Accretion Disks. *M. Tagger, R. Pellat, & F. V. Coroniti.* 393, 708, 124-F1 (1992)

Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

PELLETIER, C. Adiabatic Properties of Pulsating DA White Dwarfs. III. A Finite-Element Code for Solving Nonradial Pulsation Equations. *P. Brassard, C. Pelletier, G. Fontaine, & F. Wesemael.* 80, 725, 33-D11 (1992)

A Study of Metal Abundance Patterns in Cool White Dwarfs. I. Time-dependent Calculations of Gravitational Settling. *J. Dupuis, G. Fontaine, C. Pelletier, & F. Wesemael.* 82, 505, 56-A7 (1992)

PELLETIER, GUY. Hydromagnetic Disk Winds in Young Stellar Objects and Active Galactic Nuclei. *Guy Pelletier & Ralph E. Pudritz.* 394, 117, 129-D13 (1992)

PENCO, UMBERTO. Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

PENDLETON, GEOFFREY N. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

PENNINGTON, ROBERT L. Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)

PENNINX, W. Simultaneous X-Ray and Radio Observations of GX 5–1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

PENNYPACKER, CARLTON R. High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

PENPRASE, B. E. Detection of a Local High-Velocity Absorption-Line System toward HD 93721. *B. E. Penprase & J. C. Blades.* 391, 276, 89-D1 (1992)

Photometric and Spectroscopic Analysis of High Galactic Latitude Molecular Clouds. I. Distances and Extinctions of Stars toward 25 Selected Regions. *B. E. Penprase.* 83, 273, 61-E7 (1992)

PENSTON, M. V. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

PERACAULA-BOSCH, M. See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

PERES, G. Steady Siphon Flows in Closed Coronal Structures: Comparison with Extreme-Ultraviolet Observations. *G. Peres, D. Spadaro, & G. Noci.* 389, 777, 71-A8 (1992)

PÉREZ, ARMANDO. Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M^a. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

PÉREZ, E. Intermediate-Resolution Spectropolarimetry of 3C 273. *J. A. de Diego, E. Pérez, M. R. Kidger, & L. O. Takalo.* 396, L19, 160-D10 (1992)

PÉREZ-FOURNON, ISMAEL. The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

The Kinematics of the Extended Gas in the Seyfert Galaxy NGC 3516. *John S. Mulchaey, Zlatan Tsvetanov, Andrew S. Wilson, & Ismael Pérez-Fournon.* 394, 91, 129-B11 (1992)

PERKINS, SAM P. Gravitational Clustering in the Expanding Universe: Controlled High-Resolution Studies in Two Dimensions: Erratum. *John Francis Beacom, Kurt G. Dominik, Adrian L. Melott, Sam P. Perkins, & Sergei F. Shandarin.* 384, 665, 10-D1 (1992) (Orig. paper in 372, 351, 80-B7 (1991))

PERKO, J. S. An Estimate of the Local Interstellar Antiproton Spectrum Using Solar Modulation Techniques on the Data. *J. S. Perko.* 397, 153, 169-G10 (1992)

PERLEY, RICHARD A. Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

PERLEY, RICK A. Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

PERLMAN, ERIC S. Discovery of Neutral Hydrogen 21 Centimeter Absorption at Redshift 0.25 toward PKS 1413+135. *C. L. Carilli, Eric S. Perlman, & John T. Stocke.* 400, L13, 214-C1 (1992)

PERLMUTTER, SAUL. High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

PERRY, JUDITH J. Discovery of Extended Faraday Rotation Compatible with Spiral Structure in an Intervening Galaxy at $z = 0.395$: New Observations of PKS 1229–021. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 387, 528, 45-C1 (1992)

PERRYMAN, M. A. C. Observations of 10 Faint Quasar Candidates in the Field of the Tololo 1037–2703/1038–2712 Quasar Pair. *Peter Jakobsen & M. A. C. Perryman.* 392, 432, 107-F3 (1992)

PERSINGER, TIMOTHY. MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

PERSSON, S. E. Infrared Imaging of $z > 2$ Radio Galaxies. *P. J. McCarthy, S. E. Persson, & S. C. West.* 386, 52, 24-F7 (1992)

Emission-Line Studies of Young Stars. III. Correlations with the Infrared Excess. *Fred Hamann & S. E. Persson.* 394, 628, 137-C5 (1992)

Emission-Line Studies of Young Stars. I. The T Tauri Stars. *Fred Hamann & S. E. Persson.* 82, 247, 52-F9 (1992)

Emission-Line Studies of Young Stars. II. The Herbig Ae/Be Stars. *Fred Hamann & S. E. Persson.* 82, 285, 53-C11 (1992)

PESCH, PETER. The Case Low-Dispersion Northern Sky Survey. XIII. A Region in Central Bootes and Corona Borealis. *C. B. Stephenson, Peter Pesch, & D. Jack MacConnell.* 82, 471, 55-D3 (1992)

PETERSOHN, JENS K. Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

PETERSON, B. A. The Stromlo–APM Redshift Survey. I. The Luminosity Function and Space Density of Galaxies. *J. Loveday, B. A. Peterson, G. Efstathiou, & S. J. Maddox.* 390, 338, 79-D5 (1992)

Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)

PETERSON, B. M. Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths. *B. M. Peterson, [illegible] D. Axon, T. J. Balonek, R. Bertram, T. A. Boroson, J. A. Christensen, S. D. Clements, M. Dietrich, M. Elvis, A. V. Filippenko, C. M. Gaskell, C. A. Haswell, J. P. Huchra, N. Jackson, W. Kollatschny, K. T. Korista, N. J. Lame, R. J. Leacock, S.-N. Lin, M. A. Malkan, A. S. Monk, M. V. Penston, R. W. Pogge, A. Robinson, E. I. Rosenblatt, J. C. Shields, A. G. Smith, G. M. Stirpe, W.-H. Sun, T. J. Turner, R. M. Wagner, B. J. Wilkes, & B. J. Wills.* 392, 470, 108-B7 (1992)

PETHICK, C. J. Rapid Cooling of Neutron Stars by Hyperons and Δ Isobars. *Madappa Prakash, Manju Prakash, James M. Lattimer, & C. J. Pethick.* 390, L77, 85-A1 (1992)

PETRE, R. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

PETROSIAN, VAHÉ. Stochastic Acceleration of Electrons. I. Effects of Collisions in Solar Flares. *Russell J. Hamilton & Vahé Petrosian.* 398, 350, 186-B5 (1992)

A Simple Test of Independence for Truncated Data with Applications to Redshift Surveys. *Bradley Efron & Vahé Petrosian.* 399, 345, 202-C1 (1992)

PETROV, P. P. On the Interpretation of the Spectrum of FU Orionis. *P. P. Petrov & G. H. Herbig.* 392, 209, 103-E1 (1992)

PETUCHOWSKI, S. J. SO in Starburst Galaxies. *S. J. Petuchowski & C. L. Bennett.* 391, 137, 87-F5 (1992)

PFARR, BARBARA B. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

PFEFFERMANN, E. The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

PHILLIPS, ANDREW C. Detection of WC9 Stars in NCG 1365. *Andrew C. Phillips & Peter S. Conti.* 395, L91, 154-A6 (1992)

PHILLIPS, J. A. Precision Measurements of Pulsar Dispersion. *J. A. Phillips & A. Wolszczan.* 385, 273, 15-C8 (1992)

Radio Emission Altitudes in the Pulsar Magnetosphere. *J. A. Phillips.* 385, 282, 15-D5 (1992)

Rocks around the Clock: Limits on Pulsar Planetary Systems. *S. E. Thorsett & J. A. Phillips.* 387, L69, 48-C6 (1992)

PHILLIPS, K. J. H. The Origin of the Far-Ultraviolet Continuum in Solar and Stellar Flares. *K. J. H. Phillips, G. E. Bromage, & J. G. Doyle.* 385, 731, 22-B11 (1992)

X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)

PHILLIPS, M. M. The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)

PHILLIPS, ROBERT B. VLBI Survey of ρ Ophiuchi: A Population of Magnetized, Diskless Young Stellar Objects. *Philippe André, Bryan D. Deeney, Robert B. Phillips, & Jean-François Lestrade.* 401, 667, 230-G1 (1992)

PHILLIPS, T. G. The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

Molecular Gas in Elliptical Galaxies: Erratum. *Joanna F. Lees, G. R. Knapp, Michael P. Rupen, & T. G. Phillips.* 396, 741, 166-E1 (1992) (Orig. paper in 379, 177, 165-B11 (1991))

Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

Interstellar H_3O^+ and Its Relation to the O_2 and H_2O Abundances. *T. G. Phillips, Ewine F. van Dishoeck, & Jocelyn Keene.* 399, 533, 204-E1 (1992)

PHINNEY, E. S. The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

PHOOKUN, BIKRAM. NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

PIER, EDWARD A. Radiation-Pressure–supported Obscuring Tori around Active Galactic Nuclei. *Edward A. Pier & Julian H. Krolik.* 399, L23, 200-B8 (1992)

Infrared Spectra of Obscuring Dust Tori around Active Galactic Nuclei. I. Calculational Method and Basic Trends. *Edward A. Pier & Julian H. Krolik.* 401, 99, 222-C5 (1992)

PIERCE, MICHAEL J. Luminosity–Line Width Relations and the Extragalactic Distance Scale. I. Absolute Calibration. *Michael J. Pierce & R. Brent Tully.* 387, 47, 37-E8 (1992)

An Absolute Calibration of Type Ia Supernovae and the Value of H_0. *Michael J. Pierce, Michael E. Ressler, & Mark S. Shure.* 390, L45, 84-D1 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution. *Edward J. Shaya, R. Brent Tully, & Michael J. Pierce.* 391, 16, 86-C5 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution: Distances, Model, and the Local Velocity Anomaly. *R. Brent Tully, Edward J. Shaya, & Michael J. Pierce.* 80, 479, 30-B1 (1992)

High-Resolution Imaging of Virgo Cluster Galaxies. I. The Distance Based on the Brightest Stars in NGC 4571. *Michael J. Pierce, Robert D. McClure, & René Racine.* 393, 523, 122-C9 (1992)

PIETRINI, PAOLA. Magnetohydrodynamic Models for Extragalactic Jets. I. General Method Based on Conservation Laws. *Paola Pietrini & Guidetta Torricelli-Ciamponi.* 401, 60, 221-G1 (1992)

PIETROPAOLO, E. New Observations of 5 Minute Oscillations in the Opposite Flanks of Solar Fraunhofer Lines. I. The Effect of Varying the Spectral and Temporal Resolution. *L. Bertello, B. Caccin, P. Francia, & E. Pietropaolo.* 401, 768, 232-B1 (1992)

PIETZ, JOCHEN. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

PIKE, GREGORY F. The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

PILDIS, RACHEL A. X-Ray Emission from SN 1986J in NGC 891. *Joel N. Bregman & Rachel A. Pildis.* 398, L107, 194-E7 (1992)

PILIPP, W. Large Electric Fields in Acoustic Waves and the Stimulation of Lightning Discharges. *W. Pilipp, T. W. Hartquist, & G. E. Morfill.* 387, 364, 41-D13 (1992)

PIÑA, R. K. 12 and 20 Micron Imaging of the Starburst Galaxy NGC 253. *R. K. Piña, B. Jones, R. C. Puetter, & W. A. Stein.* 401, L75, 233-A5 (1992)

PINKAU, K. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

PINSONNEAULT, M. The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

PINSONNEAULT, M. H. Evolutionary Models of Halo Stars with Rotation. II. Effects of Metallicity on Lithium Depletion, and Possible Implications for the Primordial Lithium Abundance.

M. H. Pinsonneault, Constantine P. Deliyannis, & P. Demarque. 78, 179, 4-B3 (1992)

Standard Solar Model. *D. B. Guenther, P. Demarque, Y.-C. Kim, & M. H. Pinsonneault.* 387, 372, 41-E9 (1992)

The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

Standard Solar Model. II. *g*-Modes. *D. B. Guenther, P. Demarque, M. H. Pinsonneault, & Y.-C. Kim.* 392, 328, 105-A10 (1992)

Helium Diffusion in the Sun. *J. N. Bahcall & M. H. Pinsonneault.* 395, L119, 154-D7 (1992)

PINSONNEAULT, MARC H. Evolutionary Models and the *p*-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

PINTO, PHILIP A. A Distance-independent Calibration of the Luminosity of Type Ia Supernovae and the Hubble Constant. *Bruno Leibundgut & Philip A. Pinto.* 401, 49, 221-F1 (1992)

PIPHER, JUDITH L. Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

Near-Infrared Images of the Nuclear Region of NGC 5128. *Paula C. Turner, William J. Forrest, Judith L. Pipher, & Mark A. Shure.* 393, 648, 123-G7 (1992)

PIRAN, T. The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)

PIRAN, TSVI. The Implications of the *Compton (GRO)* Observations for Cosmological Gamma-Ray Bursts. *Tsvi Piran.* 389, L45, 73-B6 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

PISANI, A. The Mass Distribution Function of Groups of Galaxies. *A. Pisani, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 389, 68, 61-A1 (1992)

PLAMBECK, RICHARD L. High-Resolution Images of Dust Emission from Orion-KL. *Melvyn Wright, Goeran Sandell, David J. Wilner, & Richard L. Plambeck.* 393, 225, 117-A1 (1992)

PLANESAS, P. Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

PLANTE, RAYMOND L. A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)

PLATT, DONALD. A Catalog of Faint A, F, and G Stars at the South Galactic Pole. *Phillip K. Lu, Jeffrey Miller, & Donald Platt.* 83, 203, 59-E3 (1992)

PLATT, S. Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

PLIONIS, MANOLIS. Clustering of Galaxy Clusters. I. Is the Spatial Cluster-Cluster Correlation Function Enhanced Significantly by Contaminations? *Yi-Peng Jing, Manolis Plionis, & Riccardo Valdarnini.* 389, 499, 67-F3 (1992)

The Angular Three-Point Function of Galaxy Clusters. *Stefano Borgani, Yipeng Jing, & Manolis Plionis.* 395, 339, 146-D5 (1992)

Clustering of Galaxy Clusters. II. Rare Events in the Cluster Distribution. *Manolis Plionis, Riccardo Valdarnini, & Yi-Peng Jing.* 398, 12, 182-C1 (1992)

PLUCINSKY, P. P. The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

PLUME, RENÉ. A Survey of CS $J = 7 \rightarrow 6$ in Regions of Massive Star Formation. *René Plume, D. T. Jaffe, & Neal J. Evans II.* 78, 505, 9-F5 (1992)

PLUMMER, DAVID. The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

PLUMMER, THOMAS B. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

PODSIADLOWSKI, P. The Structure and Evolution of Thorne-Żytkow Objects. *R. C. Cannon, P. P. Eggleton, A. N. Żytkow, & P. Podsiadlowski.* 386, 206, 26-F5 (1992)

PODSIADLOWSKI, PH. Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)

POEDTS, STEFAAN. Linear Resistive Magnetohydrodynamic Computations of Resonant Absorption of Acoustic Oscillations in Sunspots. *Marcel Goossens & Stefaan Poedts.* 384, 348, 5-C8 (1992)

POGGE, R. W. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

POGGE, RICHARD W. Imaging Spectrophotometry of the Orion Nebula Core. I. Emission-Line Mapping and Physical Conditions. *Richard W. Pogge, J. Michael Owen, & Bruce Atwood.* 399, 147, 197-A9 (1992)

POGOSYAN, DMITRI. Coherent Structures in the Universe and the Adhesion Model. *Lev Kofman, Dmitri Pogosyan, Sergei F. Shandarin, & Adrian L. Melott.* 393, 437, 121-D1 (1992)

POLITANO, MICHAEL. A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)

POLLOCK, A. M. T. Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

POMERANTZ, M. A. Scattering of *p*-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)

POPHAM, ROBERT. Supersonic Infall and Causality in Accretion Disk Boundary Layers. *Robert Popham & Ramesh Narayan.* 394, 255, 131-B10 (1992)

POPLAWSKI, ORION. The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

PORTER, LISA J. Cylindrically Symmetric Force-free Magnetic Fields. *Lisa J. Porter, James A. Klimchuk, & Peter A. Sturrock.* 385, 738, 22-C6 (1992)

POSTMAN, MARC. The Distribution of Nearby Rich Clusters of Galaxies. *Marc Postman, John P. Huchra, & Margaret J. Geller.* 384, 404, 7-C1 (1992)

The Infrared Properties of Quasars and Radio Galaxies: Testing the Unification Schemes. *Timothy M. Heckman, Kenneth C. Chambers, & Marc Postman.* 391, 39, 86-E3 (1992)

The Hubble Flow from Brightest Cluster Galaxies. *Tod R. Lauer & Marc Postman.* 400, L47, 220-B8 (1992)

POTGIETER, M. S. The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. I. General Effects of the Changing Neutral Sheet over the Period 1985–1990. *M. S. Potgieter & J. A. Le Roux.* 386, 336, 28-D4 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. II. On the Energy Dependence of the Onset of New Modulation in 1987. *J. A. Le Roux & M. S. Potgieter.* 390, 661, 83-E1 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. III. General Energy Dependence. *M. S. Potgieter & J. A. Le Roux.* 392, 300, 104-F5 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. IV. The Role of Heliospheric Neutral Sheet Deformation. *J. A. Le Roux & M. S. Potgieter.* 397, 686, 179-E11 (1992)

POTOCKI, KENNETH A. See DAVIDSEN, ARTHUR F., et al. The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission.

POUND, M. A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1−0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

POUND, M. W. The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J*

Rickard, F. Verter, M. W. Pound, & D. Leisawitz. 390, 514, 81-F7 (1992)

POUNDS, K. A. See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

PRADHAN, ANIL K. Rate Coefficients for the Excitation of Infrared and Ultraviolet Lines in C II, N III, and O IV. *Robert D. Blum & Anil K. Pradhan.* 80, 425, 28-C11 (1992)

New Results for Photoionization and Recombination of Astrophysically Abundant Atoms and Ions: The Carbon Sequence. *Sultana N. Nahar & Anil K. Pradhan.* 397, 729, 180-B10 (1992)

PRAKASH, MADAPPA. Rapid Cooling of Neutron Stars by Hyperons and Δ Isobars. *Madappa Prakash, Manju Prakash, James M. Lattimer, & C. J. Pethick.* 390, L77, 85-A1 (1992)

PRAKASH, MANJU. Rapid Cooling of Neutron Stars by Hyperons and Δ Isobars. *Madappa Prakash, Manju Prakash, James M. Lattimer, & C. J. Pethick.* 390, L77, 85-A1 (1992)

PRASAD, C. V. V. The Comet-Tail (A–X) System of CO^+: Precise Molecular Constants of Its $X\ ^2\Sigma^+$, $A\ ^2\Pi_i$, and $B\ ^2\Sigma^+$ States. *C. Haridass, C. V. V. Prasad, & S. Paddi Reddy.* 388, 669, 58-E1 (1992)

PRATAP, P. VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

PRATAP, PREETHI. Are the NGC 7538 Formaldehyde Masers Really Unusual? *Preethi Pratap, Lewis E. Snyder, & Wolfgang Batrla.* 387, 241, 40-A1 (1992)

PREECE, R. D. Resonant Compton Cooling and Annihilation Line Production in Gamma-Ray Bursts. *R. D. Preece & A. K. Harding.* 386, 308, 28-B1 (1992)

PRESS, WILLIAM H. The Time Delay of Gravitational Lens 0957+561. I. Methodology and Analysis of Optical Photometric Data. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 404, 18-C4 (1992)

The Time Delay of Gravitational Lens 0957+561. II. Analysis of Radio Data and Combined Optical-Radio Analysis. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 416, 18-D4 (1992)

Interpolation, Realization, and Reconstruction of Noisy, Irregularly Sampled Data. *George B. Rybicki & William H. Press.* 398, 169, 184-A7 (1992)

PRESTON, R. A. See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.

PRESTWICH, ANDREA H. Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)

PRIALNIK, DINA. Classical Nova Models with Accretion Heating at Accretion Rates of 10^{-9} and 10^{-10} $M\odot$ per Year. *Dina Prialnik & Attay Kovetz.* 385, 665, 21-D1 (1992)

The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)

Crystallization, Sublimation, and Gas Release in the Interior of a Porous Comet Nucleus. *Dina Prialnik.* 388, 196, 51-D8 (1992)

PRICE, GARY H. Application of the Phase-Integral Method to the Trapping of Acoustic Waves in a Gravitating Fluid. I. Planar Polytrope and Turning-Point Behavior. *Gary H. Price.* 391, 845, 98-D10 (1992)

PRICE, ROB. New Results on the Radio–Far-Infrared Relation for Galaxies. *Rob Price & Nebojsa Duric.* 401, 81, 222-A11 (1992)

PRIEST, E. R. Magnetohydrodynamic Equilibria and Cusp Formation at an X-Type Neutral Line by Footpoint Shearing. *G. E. Vekstein & E. R. Priest.* 384, 333, 5-B3 (1992)

Prominence Sheets Supported by Constant-Current Force-free Fields. II. Imposition of Normal Photospheric Field Component and Prominence Surface Current. *C. Ridgway, T. Amari, & E. R. Priest.* 385, 718, 22-A10 (1992)

A Self-consistent Turbulent Model for Solar Coronal Heating. *J. Heyvaerts & E. R. Priest.* 390, 297, 77-F3 (1992)

Magnetohydrodynamic Waves in a Solar Prominence. *R. Oliver, J. L. Ballester, A. W. Hood, & E. R. Priest.* 400, 369, 213-E1 (1992)

PRINGLE, JAMES E. Evidence for Periodic Modulation of Presupernova Mass Loss from the Progenitor of SN 1979C. *Kurt W. Weiler, Schuyler D. Van Dyk, James E. Pringle, & Nino Panagia.* 399, 672, 206-C5 (1992)

PRINJA, R. K. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis. *R. K. Prinja, L. A. Balona, C. T. Bolton, R. A. Crowe, M. S. Fieldus, A. W. Fullerton, D. R. Gies, I. D. Howarth, D. McDavid, & A. H. N. Reid.* 390, 266, 77-C6 (1992)

PRITCHET, C. J. Angular Correlation Function of Faint Galaxies. *C. J. Pritchet & L. Infante.* 399, L35, 200-C13 (1992)

The CFHT North Galactic Pole Faint Galaxy Survey. *L. Infante & C. J. Pritchet.* 83, 237, 61-B1 (1992)

PROCTOR, DEANNE. The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

PROFFITT, CHARLES R. Helium Gravitational Settling in the Envelopes of Evolving Main-Sequence A and F Stars. *Jacques Richer, Georges Michaud, & Charles R. Proffitt.* 82, 329, 54-A1 (1992)

PROVENCAL, J. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

PROVENZALE, A. Time Series Analysis in Astronomy: An Application to Quasar Variability Studies. *R. Vio, S. Cristiani, O. Lessi, & A. Provenzale.* 391, 518, 94-D5 (1992)

PROVENZALE, ANTONELLO. Multifractal Properties of Cosmological N-Body Simulations. *Riccardo Valdarnini, Stefano Borgani, & Antonello Provenzale.* 394, 422, 134-E7 (1992)

A Simple Multifractal Model of Nonlinear Gravitational Clustering. *Antonello Provenzale, Piero Galeotti, Giuseppe Murante, & Barbara Villone.* 401, 455, 228-D1 (1992)

PRUSTI, T. An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

PRYOR, W. R. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations. *W. R. Pryor, J. M. Ajello, C. A. Barth, C. W. Hord, A. I. F. Stewart, K. E. Simmons, W. E. McClintock, B. R. Sandel, & D. E. Shemansky.* 394, 363, 132-D11 (1992)

PUCHE, DANIEL. An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

PUCHNAREWICZ, E. M. Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

PUDRITZ, RALPH E. Hydromagnetic Disk Winds in Young Stellar Objects and Active Galactic Nuclei. *Guy Pelletier & Ralph E. Pudritz.* 394, 117, 129-D13 (1992)

Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)

Resolving the Forbidden-Line Emission Regions of Young Stellar Objects: DD Tauri. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 397, L107, 181-D7 (1992)

PUETTER, R. C. 0.8–1.6 Micron Spectroscopy of the Planetary Nebula NGC 7027. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 384, 536, 8-G1 (1992)

Two-Stream, Second-Order, Probabilistic Radiative Transfer. *I. S. Krinsky & R. C. Puetter.* 393, 716, 124-F10 (1992)

The Stability of QSO/AGN Broad Emission Line Clouds. *I. S. Krinsky & R. C. Puetter.* 394, 472, 135-C1 (1992)

The Near-Infrared [Fe II] Lines of MWC 922. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 398, 278, 185-C1 (1992)

12 and 20 Micron Imaging of the Starburst Galaxy NGC 253. *R. K. Piña, B. Jones, R. C. Puetter, & W. A. Stein.* 401, L75, 233-A5 (1992)

PUNCH, M. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.

PUNG, S. Y. Oscillations and Collapse of Compressible Homogeneous Rotating Spheroids with Electron Degeneracy. *T. T. Chia & S. Y. Pung.* 398, 574, 191-C7 (1992)

PURCELL, W. R. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

PUXLEY, P. J. The He I λ2.06 Microns/Brγ Ratio in Starburst Galaxies—An Objective Constraint on the Upper Mass Limit to the Initial Mass Function. *René Doyon, P. J. Puxley, & R. D. Joseph.* 397, 117, 169-D9 (1992)

PYE, J. P. Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

PYE, JOHN P. First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

QU, QUINYUE. The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

QUEMERAIS, E. Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)

QUENBY, J. J. See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

QUILLEN, A. C. The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

QUINN, PETER J. Dark Halos Formed via Dissipationless Collapse. I. Shapes and Alignment of Angular Momentum. *Michael S. Warren, Peter J. Quinn, John K. Salmon, & Wojciech H. Zurek.* 399, 405, 203-A11 (1992)

RABIN, DOUGLAS. A True-Field Magnetogram in a Solar Plage Region. *Douglas Rabin.* 390, L103, 85-D1 (1992)

Spatially Extended Measurements of Magnetic Field Strength in Solar Plages. *Douglas Rabin.* 391, 832, 98-C6 (1992)

Pervasive Variability in the Quiet Solar Transition Region. *Douglas Rabin & James F. Dowdy, Jr.* 398, 665, 192-D1 (1992)

RACINE, RENÉ. High-Resolution Imaging of Virgo Cluster Galaxies. I. The Distance Based on the Brightest Stars in NGC 4571. *Michael J. Pierce, Robert D. McClure, & René Racine.* 393, 523, 122-C9 (1992)

Continuum and C III] Microlensing in Q2237+0305 and the Quasar Geometry. *René Racine.* 395, L65, 153-F1 (1992)

RADFORD, S. J. E. Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

RAGA, A. C. Knots in Stellar Jets from Time-dependent Sources. *A. C. Raga & Lev Kofman.* 386, 222, 27-A1 (1992)

Modeling Structures of Knots in Jet Flows with the Burgers Equation. *Lev Kofman & A. C. Raga.* 390, 359, 79-F5 (1992)

Structure and Kinematics of the HH 111 Jet. *Bo Reipurth, A. C. Raga, & Steve Heathcote.* 392, 145, 102-F10 (1992)

RAITERI, C. M. *s*-Processing in Massive Stars as a Function of Metallicity and Interpretation of Observational Trends. *C. M. Raiteri, R. Gallino, & M. Busso.* 387, 263, 40-C1 (1992)

Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)

RAJEEV, M. R. Evidence for Time Variability of PeV Energy Flux from Cygnus X-3: Ooty Observations during the Period 1984–1987. *S. C. Tonwar, S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, & R. Srivatsan.* 390, 273, 77-D1 (1992)

RAMATY, R. On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

Diffuse 0.511 MeV Line Emission and the Distribution of Positron Annihilation in the Galaxy. *J. G. Skibo, R. Ramaty, & M. Leventhal.* 397, 135, 169-F3 (1992)

RAMATY, REUVEN. Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)

High-Energy Gamma-Ray Emission from Pion Decay in a Solar Flare Magnetic Loop. *Natalie Mandzhavidze & Reuven Ramaty.* 389, 739, 70-E6 (1992)

Gamma Rays from Pion Decay: Evidence for Long-Term Trappings of Particles in Solar Flares. *Natalie Mandzhavidze & Reuven Ramaty.* 396, L111, 167-F7 (1992)

RAMELLA, MASSIMO. The Distribution of Galaxies within the "Great Wall." *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 384, 396, 7-B7 (1992)

RANA, N. C. Multiplicity-corrected Mass Function of Main-Sequence Stars in the Solar Neighborhood. *Sarbani Basu & N. C. Rana.* 393, 373, 118-F10 (1992)

RAND, RICHARD J. Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

Star Formation and the Distribution of H I and Infrared Emission in M51. *Richard J. Rand, Shrinivas R. Kulkarni, & W. Rice.* 390, 66, 74-G9 (1992)

Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

RANDICH, SOFIA. Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

RANK, DAVID. Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)

RAO, A. R. X-Ray Continuum and Line Emission of the Seyfert Galaxy MCG−5-23-16. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 385, 132, 13-E10 (1992)

RAPPAPORT, S. X-Ray Scattering and Fluorescence in the Wind of a Massive X-Ray Binary. *W. Lewis, S. Rappaport, A. Levine, & F. Nagase.* 389, 665, 69-F3 (1992)

Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

RASILLA, J. L. Bidimensional Spectroscopy of the Central Kiloparsec of NGC 4151. *E. Mediavilla, S. Arribas, & J. L. Rasilla.* 396, 517, 164-A1 (1992)

RASIO, FREDERIC A. Hydrodynamical Evolution of Coalescing Binary Neutron Stars. *Frederic A. Rasio & Stuart L. Shapiro.* 401, 226, 223-G9 (1992)

RASMUSSEN, ANDREW. Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)

RATRA, BHARAT. Cosmological "Seed" Magnetic Field from Inflation. *Bharat Ratra.* 391, L1, 91-F8 (1992)

RAUBENHEIMER, B. C. Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

RAUCH, KEVIN P. Caustic-induced Features in Microlensing Magnification Probability Distributions. *Kevin P. Rauch, Shude Mao, Joachim Wambsganss, & Bohdan Paczyński.* 386, 30, 24-D10 (1992)

RAUCH, M. The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

RAYMOND, J. Iron Ionization and Recombination Rates and Ionization Equilibrium. *M. Arnaud & J. Raymond.* 398, 394, 186-F5 (1992)

RAYMOND, JOHN C. On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)

Microflare Heating of the Galactic Halo. *John C. Raymond.* 384, 502, 8-D1 (1992)

On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

REACH, WILLIAM T. Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

Zodiacal Emission. III. Dust near the Asteroid Belt. *William T. Reach.* 392, 289, 104-E7 (1992)

READHEAD, A. C. S. Three-Epoch VLBI Observations of the Nucleus in the Lobe-dominated Quasar 3C 334. *D. H. Hough, A. C. S. Readhead, D. A. Wood, Jr., & J. J. Feldmeier.* 393, 81, 115-B1 (1992)

A Compendium of Radio Spectra and Luminosities for Three Complete Samples of Radio Sources. *T. Herbig & A. C. S. Readhead.* 81, 83, 36-B11 (1992)

The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

READHEAD, ANTHONY C. S. The Broad Emission Line and Continuum Variations of Seyfert Galaxies. I. Time Scales and Amplitudes. *Edward I. Rosenblatt, Matthew A. Malkan, Wallace L. W. Sargent, & Anthony C. S. Readhead.* 81, 59, 35-G9 (1992)

REAMES, D. V. Energy Spectra of Ions from Impulsive Solar Flares. *D. V. Reames, I. G. Richardson, & K.-P. Wenzel.* 387, 715, 47-E11 (1992)

REBHAN, ANTON. Large-Scale Rotational Perturbations of a Friedmann Universe with Collisionless Matter and Primordial Magnetic Fields. *Anton Rebhan.* 392, 385, 107-B6 (1992)

REBOLO, RAFAEL. Spectroscopy of a Brown Dwarf Candidate in the α Persei Open Cluster. *Rafael Rebolo, Eduardo L. Martín, & Antonio Magazzù.* 389, L83, 73-E11 (1992)

Lithium Abundances in Classical and Weak T Tauri Stars. *Antonio Magazzù, Rafael Rebolo, & Yakov V. Pavlenko.* 392, 159, 103-A1 (1992)

REDDY, S. PADDI. The Comet-Tail (*A–X*) System of CO^+: Precise Molecular Constants of Its $X\ ^2\Sigma^+$, $A\ ^2\Pi_i$, and $B\ ^2\Sigma^+$ States. *C. Haridass, C. V. V. Prasad, & S. Paddi Reddy.* 388, 669, 58-E1 (1992)

REDMAN, R. O. Limits on Detectability of Mass Loss from Cool Dwarfs. *D. J. Mullan, J. G. Doyle, R. O. Redman, & M. Mathioudakis.* 397, 225, 170-F12 (1992)

REES, M. J. Tidal Heating and Mass Loss in Neutron Star Binaries: Implications for Gamma-Ray Burst Models. *P. Mészáros & M. J. Rees.* 397, 570, 178-A12 (1992)

REFFO, G. Origin of ^{180m}Ta and the Temperature of the *s*-Process. *Zs. Németh, F. Käppeler, & G. Reffo.* 392, 277, 104-D7 (1992)

REGEV, ODED. Dynamics of Fronts in Thermally Bistable Fluids. *Christian Elphick, Oded Regev, & Nir Shaviv.* 392, 106, 102-C9 (1992)

Cool Mass-losing Boundary Layers of T Tauri Accretion Disks. *Claude Bertout & Oded Regev.* 399, L163, 208-E1 (1992)

REICHERT, G. A. Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

REID, A. H. N. See PRINJA, R. K., et al. Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis.

REID, I. N. The Faintest Stars. *C. G. Tinney, J. R. Mould, & I. N. Reid.* 396, 173, 157-C6 (1992)

REID, M. J. Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

REID, NEILL. Effective Temperatures of M Dwarfs. *Graham Berriman, Neill Reid, & S. K. Leggett.* 392, L31, 106-D11 (1992)

REIFF, CHRISTINE M. Accretion Disks in Active Galactic Nuclei: Vertically Averaged Models. *John K. Cannizzo & Christine M. Reiff.* 385, 87, 13-B1 (1992)

REIMERS, D. *ROSAT* X-Ray Observations of Hybrid Stars. *D. Reimers & J. H. M. M. Schmitt.* 392, L55, 113-B11 (1992)

The White Dwarf Companion to PSR 0820+02. *D. Koester, G. Chanmugam, & D. Reimers.* 395, L107, 154-C7 (1992)

REINECKE, J. P. L. On the Form of the 1987 Hydrogen Spectrum in the Outer Heliosphere. *J. P. L. Reinecke & H. Moraal.* 392, 272, 104-D1 (1992)

REINER, M. J. Detection of Fundamental and Harmonic Type III Radio Emission and the Associated Langmuir Waves at the Source Region. *M. J. Reiner, R. G. Stone, & J. Fainberg.* 394, 340, 132-B12 (1992)

REIPURTH, BO. G203.2–12.3: A New Optical Supernova Remnant in Orion. *P. Frank Winkler & Bo Reipurth.* 389, L25, 66-D1 (1992)

Structure and Kinematics of the HH 111 Jet. *Bo Reipurth, A. C. Raga, & Steve Heathcote.* 392, 145, 102-F10 (1992)

REISENEGGER, ANDREAS. A New Class of *g*-Modes in Neutron Stars. *Andreas Reisenegger & Peter Goldreich.* 395, 240, 143-B7 (1992)

Magnetic Field Decay in Isolated Neutron Stars. *Peter Goldreich & Andreas Reisenegger.* 395, 250, 143-C5 (1992)

REISENFELD, DANIEL B. On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

Dielectronic Recombination as a Function of Electric Field Strength. *Daniel B. Reisenfeld.* 398, 386, 186-E9 (1992)

REMILLARD, R. A. H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

REMILLARD, RONALD A. Evidence for a Black Hole in the X-Ray Binary Nova Muscae 1991. *Ronald A. Remillard, Jeffrey E. McClintock, & Charles D. Bailyn.* 399, L145, 208-C7 (1992)

RENGARAJAN, T. N. Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

RENZINI, ALVIO. Are Symbiotic Stars the Precursors of Type Ia Supernovae? *Ulisse Munari & Alvio Renzini.* 397, L87, 181-B1 (1992)

Why Stars Inflate to and Deflate from Red Giant Dimensions. *Alvio Renzini, Laura Greggio, Claudio Ritossa, & Lilia Ferrario.* 400, 280, 212-D8 (1992)

REPHAELI, YOEL. High-Energy X Emission from the Coma Cluster. *Yoel Rephaeli & Oleg Goldshmidt.* 397, 438, 176-B6 (1992)

RESSLER, MICHAEL E. An Absolute Calibration of Type Ia Supernovae and the Value of H_0. *Michael J. Pierce, Michael E. Ressler, & Mark S. Shure.* 390, L45, 84-D1 (1992)

RETTIG, TERRENCE W. Comet Outbursts and Polymers of HCN. *Terrence W. Rettig, Stephen C. Tegler, Daniel J. Pasto, & Michael J. Mumma.* 398, 293, 185-D5 (1992)

REUTER, DENNIS C. The Contribution of Methanol to the 3.4 Micron Emission Feature in Comets. *Dennis C. Reuter.* 386, 330, 28-C11 (1992)

REUTER, H.-P. Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)

REYNOLDS, J. See DESAI, K. M., et al. A Speckle Hologram of the Interstellar Plasma.

REYNOLDS, P. T. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.

REYNOLDS, R. J. The Optical Emission-Line Background and Accompanying Emissions at Ultraviolet, Infrared, and Millimeter Wavelengths. *R. J. Reynolds.* 392, L35, 106-E1 (1992)

Spatial Heterodyne Spectroscopy for the Exploration of Diffuse Interstellar Emission Lines at Far-Ultraviolet Wavelengths. *J. Harlander, R. J. Reynolds, & F. L. Roesler.* 396, 730, 166-D3 (1992)

Heating the Warm Ionized Medium. *R. J. Reynolds & D. P. Cox.* 400, L33, 214-D10 (1992)

REYNOLDS, STEPHEN P. Electron Acceleration in Tycho's and Kepler's Supernova Remnants: Spectral Evidence of Fermi Shock Acceleration. *Stephen P. Reynolds & Donald C. Ellison.* 399, L75, 201-B1 (1992)

RHOADS, J. E. The Practical Application of the Magnetic Virial Theorem. *J. A. Klimchuk, R. C. Canfield, & J. E. Rhoads.* 385, 327, 16-A1 (1992)

RHOADS, JAMES. IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

OH and H I Absorption at the Nucleus of NGC 660. *Willem A. Baan, James Rhoads, & Aubrey D. Haschick.* 401, 508, 229-A6 (1992)

RIBAK, EREZ. Primordial Gaussian Perturbation Fields: Constrained Realizations. *Yehuda Hoffman & Erez Ribak.* 384, 448, 7-F9 (1992)

RIBEIRO, MARCELO B. On Modeling a Relativistic Hierarchical (Fractal) Cosmology by Tolman's Spacetime. I. Theory. *Marcelo B. Ribeiro.* 388, 1, 49-B1 (1992)

On Modeling a Relativistic Hierarchical (Fractal) Cosmology by Tolman's Spacetime. II. Analysis of the Einstein–de Sitter Model. *Marcelo B. Ribeiro.* 395, 29, 140-E1 (1992)

RICCATI, L. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

RICE, W. Star Formation and the Distribution of H I and Infrared Emission in M51. *Richard J. Rand, Shrinivas R. Kulkarni, & W. Rice.* 390, 66, 74-G9 (1992)

RICHARDS, MERCEDES T. Consequences of the Star-Stream Interaction in Algol. *Mercedes T. Richards.* 387, 329, 41-A12 (1992)

RICHARDS, P. L. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

RICHARDSON, FOY F. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

RICHARDSON, I. G. Energy Spectra of Ions from Impulsive Solar Flares. *D. V. Reames, I. G. Richardson, & K.-P. Wenzel.* 387, 715, 47-E11 (1992)

RICHER, H. B. Fokker-Planck Models and Globular Cluster Evolution: The Problem of M71. *G. A. Drukier, G. G. Fahlman, & H. B. Richer.* 386, 106, 25-D7 (1992)

RICHER, HARVEY B. Young Globular Clusters in the Milky Way Galaxy. *D. N. C. Lin & Harvey B. Richer.* 388, L57, 59-C1 (1992)

RICHER, JACQUES. Helium Gravitational Settling in the Envelopes of Evolving Main-Sequence A and F Stars. *Jacques Richer, Georges Michaud, & Charles R. Proffitt.* 82, 329, 54-A1 (1992)

RICHMOND, MICHAEL W. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

RICHSTONE, D. Constraints on Baryonic Dark Matter in the Galactic Halo and Local Group. *D. Richstone, A. Gould, P. Guhathakurta, & C. Flynn.* 388, 354, 54-F12 (1992)

A Lower Limit on the Cosmic Mean Density from the Ages of Clusters of Galaxies. *D. Richstone, A. Loeb, & E. L. Turner.* 393, 477, 121-G1 (1992)

RICHSTONE, DOUGLAS. Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)

Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)

RICHSTONE, DOUGLAS O. Models of Star Formation in Interacting and Merging Disk Galaxies. *J. Christopher Mihos, Douglas O. Richstone, & Gregory D. Bothun.* 400, 153, 210-G4 (1992)

RICKARD, G. J. Taylor Relaxation of a Gold-Hoyle Flux Tube. *G. J. Rickard.* 389, 413, 65-A10 (1992)

RICKARD, L. J. The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J Rickard, F. Verter, M. W. Pound, & D. Leisawitz.* 390, 514, 81-F7 (1992)

On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. II. Structure, Stability, and Physical Conditions from $C^{18}O$ Observations. *B. E. Turner, Lanping Xu, & L. J Rickard.* 391, 158, 88-A7 (1992)

RIDGWAY, C. Prominence Sheets Supported by Constant-Current Force-free Fields. II. Imposition of Normal Photospheric Field Component and Prominence Surface Current. *C. Ridgway, T. Amari, & E. R. Priest.* 385, 718, 22-A10 (1992)

RIEGER, E. The Role of Chromospheric Condensations in the Continuum Emission of White-Light Flares. *W. Q. Gan, E. Rieger, H. Q. Zhang, & C. Fang.* 397, 694, 179-F8 (1992)

RIEKE, G. H. Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

Near-Infrared Observations of AFGL 618. II. The Atomic Spectrum. *Douglas M. Kelly, William B. Latter, & G. H. Rieke.* 395, 174, 142-D1 (1992)

RIEKE, M. J. Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

RIEKE, MARCIA. Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin $1989c_1$. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)

RIETMEIJER, FRANS J. M. Nonequilibrium Iron Oxide Formation in Some Low-Mass Post–Asymptotic Giant Branch Stars. *Frans J. M. Rietmeijer.* 400, L39, 214-E6 (1992)

RIEUTORD, MICHEL. Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

RIGLER, M. A. Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

RITOSSA, CLAUDIO. Why Stars Inflate to and Deflate from Red Giant Dimensions. *Alvio Renzini, Laura Greggio, Claudio Ritossa, & Lilia Ferrario.* 400, 280, 212-D8 (1992)

RIX, HANS-WALTER. Cooling and the Longevity of Polar Rings. *Neal Katz & Hans-Walter Rix.* 389, L55, 73-C3 (1992)

Dynamical Evolution of Highly Inclined Rings. *Dimitris M. Christodoulou, Neal Katz, Hans-Walter Rix, & Asao Habe.* 395, 113, 141-E1 (1992)

NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)

ROBB, T. D. Steady and Nonsteady Siphon Flow in Hot Coronal Loops. *T. D. Robb & P. S. Cally.* 397, 329, 172-A1 (1992)

ROBBA, N. R. *EXOSAT* Observations of the X-Ray Binary Pulsar 4U 1538–52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

ROBERT, CARMELLE. Polarization Variability among Wolf-Rayet Stars. VII. The Single Stars WR 14, WR 25, and WR 69. *Laurent Drissen, Carmelle Robert, & Anthony F. J. Moffat.* 386, 288, 27-F11 (1992)

Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris. *Carmelle Robert, Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne,*

Wilhelm Seggewiss, Virpi S. Niemela, Miguel A. Cerruti, Paul Barrett, Jeremy Bailey, Jorge Garcia, & Santiago Tapia. 397, 277, 171-D1 (1992)

Deposition of Mass, Momentum, and Energy by Massive Stars into the Interstellar Medium. *Claus Leitherer, Carmelle Robert, & Laurent Drissen.* 401, 596, 230-A6 (1992)

ROBERTS, D. H. The Radio Time Delay in the Double Quasar 0957+561. *J. Lehár, J. N. Hewitt, D. H. Roberts, & B. F. Burke.* 384, 453, 7-G1 (1992)

A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

ROBERTS, MORTON S. Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

ROBERTS, WILLIAM W., JR. Ambiguities in the Identification of Giant Molecular Cloud Complexes from Longitude-Velocity Diagrams. *David S. Adler & William W. Roberts, Jr.* 384, 95, 2-B12 (1992)

On the Distribution of Pitch Angles in External Galactic Spirals NGC 1232 and NGC 5457. *William S. Russell & William W. Roberts, Jr.* 398, 94, 183-B9 (1992)

ROBIN, ANNIE C. The Edge of the Galactic Disk. *Annie C. Robin, Michel Crézé, & Vijay Mohan.* 400, L25, 214-D1 (1992)

ROBINSON, A. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

ROBINSON, E. L. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

ROBINSON, EDWARD L. Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

ROBINSON, P. A. Connection between Ambient Density Fluctuations and Clumpy Langmuir Waves in Type III Radio Sources. *P. A. Robinson, I. H. Cairns, & D. A. Gurnett.* 387, L101, 48-F1 (1992)

ROBINSON, RICHARD D. Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

ROBSON, E. I. A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

ROCHESTER, G. K. See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

RODRIGUES, LILIYA L. Absorption-Line Profiles in a Companion Spectrum of a Mass-losing Cool Supergiant. *Liliya L. Rodrigues & Erika Böhm-Vitense.* 401, 695, 231-B10 (1992)

RODRÍGUEZ, L. F. The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

VLA Imaging of a Possible Circumstellar Disk around HL Tauri. *L. F. Rodríguez, J. Cantó, J. M. Torrelles, J. F. Gómez, & P. T. P. Ho.* 393, L29, 120-E1 (1992)

Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

High-Velocity OH in Absorption: A New Tracer of Shocked Gas in Outflows? *A. Ruiz, L. F. Rodríguez, J. Cantó, & I. F. Mirabel.* 398, 139, 183-F3 (1992)

The Radio Counterpart of the Hard X-Ray Source GRS 1758−258. *L. F. Rodríguez, I. F. Mirabel, & J. Martí.* 401, L15, 227-C1 (1992)

RODRÍGUEZ, LUIS F. On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

ROEDER, ROBERT C. A Deficiency of Large-Scale Pairs among Nearby Quasars. *Robert C. Roeder.* 387, L13, 43-B8 (1992)

ROELFSEMA, P. R. Anomalously High Apparent Abundances of Singly Ionized Helium in the Galactic H II Region W3A. *P. R. Roelfsema, W. M. Goss, & D. C. V. Mallik.* 394, 188, 130-C13 (1992)

ROELLIG, T. L. Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

ROESLER, F. L. Spatial Heterodyne Spectroscopy for the Exploration of Diffuse Interstellar Emission Lines at Far-Ultraviolet Wavelengths. *J. Harlander, R. J. Reynolds, & F. L. Roesler.* 396, 730, 166-D3 (1992)

ROGER, R. S. The Development of H I Dissociation Zones around New H II Regions. *R. S. Roger & P. E. Dewdney.* 385, 536, 19-G5 (1992)

The Sharpless 187 Gas Complex: A Multifrequency Study. *G. Joncas, D. Durand, & R. S. Roger.* 387, 591, 46-A9 (1992)

ROGERS, FORREST J. Radiative Atomic Rosseland Mean Opacity Tables. *Forrest J. Rogers & Carlos A. Iglesias.* 79, 507, 20-G11 (1992)

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

Spin-Orbit Interaction Effects on the Rosseland Mean Opacity. *Carlos A. Iglesias, Forrest J. Rogers, & Brian G. Wilson.* 397, 717, 180-A7 (1992)

Rosseland Mean Opacities for Variable Compositions. *Forrest J. Rogers & Carlos A. Iglesias.* 401, 361, 225-E1 (1992)

ROKKE, L. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

ROMANI, PAUL N. Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

ROMANI, ROGER W. The Angular Correlation of Quasars and Abell Clusters. *Roger W. Romani & Dan Maoz.* 386, 36, 24-E3 (1992)

The Evolution of a Primordial Binary Population in a Globular Cluster. *Piet Hut, Steve McMillan, & Roger W. Romani.* 389, 527, 68-A8 (1992)

Populations of Low-Mass Black Hole Binaries. *Roger W. Romani.* 399, 621, 205-F1 (1992)

Gamma Radiation from Pulsar Magnetospheric Gaps. *James Chiang & Roger W. Romani.* 400, 629, 218-C1 (1992)

Spectroscopy of the Companion and Bow-Shock Nebula of PSR 1957+20. *Thomas L. Aldcroft, Roger W. Romani, & James M. Cordes.* 400, 638, 218-C13 (1992)

ROMANISHIN, W. The BL Lacertae Object 1E 1415.6+2557: Host Galaxy, Possible Optical Jet, and Environment. *W. Romanishin.* 401, L65, 232-G1 (1992)

ROMANO, V. Covariant Flux-limited Diffusion Theories. *A. M. Anile & V. Romano.* 386, 325, 28-C5 (1992)

ROMERO, JOSÉ V. Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M^a. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

ROOD, R. T. Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

ROOS, NICO. Gas Clouds from Tidally Disrupted Stars in Active Galactic Nuclei. *Nico Roos.* 385, 108, 13-C11 (1992)

ROOS, T. A Huge H I Cloud near a Galaxy Pair. *G. Lyle Hoffman, E. E. Salpeter, C. Lamphier, & T. Roos.* 388, L5, 52-A11 (1992)

ROQUES, J. P. See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

ROSEN, NATHAN. Astrophysical Jets and Theories of Gravitation. *Mario Livio & Nathan Rosen.* 387, 458, 44-D5 (1992)

Newton's Laws in a Cosmological Model. *Mark Israelit & Nathan Rosen.* 400, 21, 209-C7 (1992)

ROSENBLATT, E. I. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

ROSENBLATT, EDWARD I. The Broad Emission Line and Continuum Variations of Seyfert Galaxies. I. Time Scales and Amplitudes. *Edward I. Rosenblatt, Matthew A. Malkan, Wallace L. W. Sargent, & Anthony C. S. Readhead.* 81, 59, 35-G9 (1992)

ROSENQVIST, JAN. Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

ROSENTHAL, E. S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

ROSMUS, P. Theoretical Vibration-Rotation Spectrum of Si_2C. *W. Gabriel, G. Chambaud, P. Rosmus, A. Spielfiedel, & N. Feautrier.* 398, 706, 192-G7 (1992)

ROSNER, R. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

ROSSANO, GEORGE S. 0.8–1.6 Micron Spectroscopy of the Planetary Nebula NGC 7027. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 384, 536, 8-G1 (1992)

The Near-Infrared [Fe II] Lines of MWC 922. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 398, 278, 185-C1 (1992)

ROSSO, C. *ROSAT* X-Ray All-Sky Survey Observations of Hybrid Stars. *Bernhard Haisch, J. H. M. M. Schmitt, & C. Rosso.* 388, L61, 59-C7 (1992)

ROSSO, CRISTINA. First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

ROSSOW, WILLIAM B. The Abundance and Distribution of Water Vapor in the Jovian Troposphere as Inferred from *Voyager* IRIS Observations. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 388, 648, 58-C7 (1992)

Ortho-para–Hydrogen Equilibration on Jupiter. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 393, 357, 118-E6 (1992)

ROTH, I. The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

ROTHERMEL, H. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

ROTTMAN, G. J. Coronal Density and Temperature Structure from Coordinated Observations Associated with the Total Solar Eclipse of 1988 March 18. *M. Guhathakurta, G. J. Rottman, R. R. Fisher, F. Q. Orrall, & R. C. Altrock.* 388, 633, 58-B1 (1992)

ROUSE, M. F. Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

ROUSSEL-DUPRE, DIANE. X-Ray Spectrum and Time Variation of X1850−087 in the Globular Cluster NGC 6712. *Shunji Kitamoto, Hiroshi Tsunemi, & Diane Roussel-Dupre.* 391, 220, 88-F7 (1992)

ROWLANDS, N. The High-Excitation Region of NGC 7027. *N. Rowlands, J. R. Houck, T. L. Hayward, & J. W. Miles.* 390, L93, 85-C1 (1992)

ROY, JEAN-RENÉ. The Abundance Gradients across the Spiral Galaxies NGC 628 and NGC 6946. *Julien Belley & Jean-René Roy.* 78, 61, 2-C7 (1992)

The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

The Oxygen Abundance Gradient in the Barred Spiral Galaxy NGC 4303. *Pierre Martin & Jean-René Roy.* 397, 463, 176-D13 (1992)

ROZSNYAI, BALAZS F. Solar Opacities Based on the Ion-Sphere and Ion-Correlation Models. *Balazs F. Rozsnyai.* 393, 409, 119-C1 (1992)

RUAMSUWAN, LADDAWAN. Stability of Scale-invariant Nonlinear Gravitational Clustering. *Laddawan Ruamsuwan & J. N. Fry.* 396, 416, 162-F1 (1992)

RUBIN, VERA C. Cospatial Counterrotating Stellar Disks in the Virgo E7/S0 Galaxy NGC 4550. *Vera C. Rubin, J. A. Graham, & Jeffrey D. P. Kenney.* 394, L9, 133-B7 (1992)

RUDERMAN, M. S. Nonlinear Dissipation of Surface Alfvén Waves in the Solar Corona. *M. S. Ruderman.* 399, 724, 207-A5 (1992)

RUDOLPH, ALEXANDER. Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

High-Velocity HCO^+ Emission from L1551 IRS 5: Evidence for Wind-Cloud Interactions. *Alexander Rudolph.* 397, L111, 181-D13 (1992)

RUDOLPH, ALEXANDER L. Fine-Scale Structure in the -185 Kilometers per Second Absorption by HCO^+ in the Galactic Center. *Jonathan M. Marr, Alexander L. Rudolph, Thomas A. Pauls, Melvyn C. H. Wright, & Donald C. Backer.* 400, L29, 214-D5 (1992)

RUDY, RICHARD J. 0.8–1.6 Micron Spectroscopy of the Planetary Nebula NGC 7027. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 384, 536, 8-G1 (1992)

The Near-Infrared [Fe II] Lines of MWC 922. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 398, 278, 185-C1 (1992)

RUFFINI, R. Radiation from a Relativistic Magnetized Star. *V. Belinsky & R. Ruffini.* 401, L27, 227-D7 (1992)

RUIZ, A. High-Velocity OH in Absorption: A New Tracer of Shocked Gas in Outflows? *A. Ruiz, L. F. Rodríguez, J. Cantó, & I. F. Mirabel.* 398, 139, 183-F3 (1992)

RUIZ, ABRAHAM. Possible Detection of a High-Velocity Neutral Wind in T Tauri. *Abraham Ruiz, José L. Alonso, & I. F. Mirabel.* 394, L57, 139-D7 (1992)

RUIZ, MARÍA-TERESA. Discovery of Two Cool Magnetic White Dwarfs. *P. Bergeron, María-Teresa Ruiz, & S. K. Leggett.* 400, 315, 212-G5 (1992)

RUIZ COBO, B. Inversion of Stokes Profiles. *B. Ruiz Cobo & J. C. del Toro Iniesta.* 398, 375, 186-D11 (1992)

RUIZ-LAPUENTE, P. Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

Nebular Spectra of Type Ia Supernovae as Probes for Extragalactic Distances, Reddening, and Nucleosynthesis. *P. Ruiz-Lapuente & L. B. Lucy.* 400, 127, 210-E1 (1992)

RUOKOLAINEN, JUHA. Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

RUPEN, MICHAEL P. Molecular Gas in Elliptical Galaxies: Erratum. *Joanna F. Lees, G. R. Knapp, Michael P. Rupen, & T. G. Phillips.* 396, 741, 166-E1 (1992) (Orig. paper in 379, 177, 165-B11 (1991))

RUSSELL, A. P. G. Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

RUSSELL, RAY W. CO (v = 1–0) Emission in the Molecular Shock Regions of OMC-1. *G. L. Grasdalen, John A. Hackwell, David K. Lynch, & Ray W. Russell.* 397, L119, 181-E13 (1992)

8–13 Micron Spectroscopy of Nova Herculis 1991. *David K. Lynch, John A. Hackwell, & Ray W. Russell.* 398, 632, 192-A5 (1992)

RUSSELL, STEPHEN C. Abundances of the Heavy Elements in the Magellanic Clouds. III. Interpretation of Results. *Stephen C. Russell & Michael A. Dopita.* 384, 508, 8-D9 (1992)

RUSSELL, WILLIAM S. On the Distribution of Pitch Angles in External Galactic Spirals NGC 1232 and NGC 5457. *William S. Russell & William W. Roberts, Jr.* 398, 94, 183-B9 (1992)

RYAN, J. M. The Solar Flare Event on 1990 May 24: Evidence for Two Separate Particle Accelerations. *H. Debrunner, J. A. Lockwood, & J. M. Ryan.* 387, L51, 43-F7 (1992)

RYAN, SEAN G. Evolution of Beryllium Abundances in the Galactic Halo. *Sean G. Ryan, John E. Norris, M. S. Bessell, & Constantine P. Deliyannis.* 388, 184, 51-C6 (1992)

RYBICKI, G. B. The Sobolev Approximation for Line Formation with Partial Frequency Redistribution. *D. G. Hummer & G. B. Rybicki.* 387, 248, 40-A10 (1992)

RYBICKI, GEORGE B. The Time Delay of Gravitational Lens 0957+561. I. Methodology and Analysis of Optical Photometric Data. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 404, 18-C4 (1992)

The Time Delay of Gravitational Lens 0957+561. II. Analysis of Radio Data and Combined Optical-Radio Analysis. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 416, 18-D4 (1992)

Interpolation, Realization, and Reconstruction of Noisy, Irregularly Sampled Data. *George B. Rybicki & William H. Press.* 398, 169, 184-A7 (1992)

RYDBECK, GUSTAV. A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)

RYDEN, BARBARA S. Projections of Box-shaped Galaxies. *Barbara S. Ryden.* 386, 42, 24-E10 (1992)

The Intrinsic Shapes of Elliptical Galaxies. *Barbara S. Ryden.* 396, 445, 163-A5 (1992)

RYU, DONGSU. Acoustic Instability in Cosmic-Ray Mediated Shocks. *Hyesung Kang, T. W. Jones, & Dongsu Ryu.* 385, 193, 14-D1 (1992)

Convective Instability in Differentially Rotating Disks. *Dongsu Ryu & Jeremy Goodman.* 388, 438, 55-F12 (1992)

SAAVEDRA, O. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

SABA, J. L. R. Resonance Scattering of Fe XVII: A Density Diagnostic. *J. T. Schmelz, J. L. R. Saba, & K. T. Strong.* 398, L115, 194-F6 (1992)

SACCO, B. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

SACKMANN, I.-JULIANA. The Creation of Superrich Lithium Giants. *I.-Juliana Sackmann & Arnold I. Boothroyd.* 392, L71, 113-D3 (1992)

Breakdown of the Core Mass–Luminosity Relation at High Luminosities on the Asymptotic Giant Branch. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 393, L21, 120-D1 (1992)

SAEZ, PABLO J. The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

SAFFER, REX A. A Spectroscopic Determination of the Mass Distribution of DA White Dwarfs. *P. Bergeron, Rex A. Saffer, & James Liebert.* 394, 228, 130-G5 (1992)

Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)

SAFIER, PEDRO N. On the Use of Forbidden Lines as Density Diagnostics in Stratified Media. *Pedro N. Safier.* 392, 492, 108-D5 (1992)

SAGLIA, R. P. Elliptical Galaxies with Dark Matter. I. Self-consistent Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 384, 423, 7-D9 (1992)

Elliptical Galaxies with Dark Matter. II. Optimal Luminous–Dark Matter Decomposition for a Sample of Bright Objects. *R. P. Saglia, G. Bertin, & M. Stiavelli.* 384, 433, 7-E7 (1992)

SAHA, A. The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

SAHADE, JORGE. The Orbital Parameters and the *IUE* Spectrum of the Single-lined Spectroscopic Binary HD 698. *Jorge Sahade, Rodolfo Barbá, & Yoji Kondo.* 81, 303, 39-B1 (1992)

SAHAI, RAGHVENDRA. SO and SO_2 in Mass-Loss Envelopes of Red Giants: Probes of Nonequilibrium Circumstellar Chemistry and Mass-Loss Rates. *Raghvendra Sahai & Peter G. Wannier.* 394, 320, 132-A3 (1992)

SAHNI, VARUN. Loitering Universe. *Varun Sahni, Hume Feldman, & Albert Stebbins.* 385, 1, 12-B1 (1992)

SAHRLING, MIKAEL. A Solvable Model of Fusion Rates in Dense Stars. *Magnus Jändel & Mikael Sahrling.* 393, 679, 124-C5 (1992)

SAITO, SHUJI. Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)

See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

SAIZAR, PEDRO. A Multiwavelength Study of Nova QU Vulpeculae 1984. *Pedro Saizar, Sumner Starrfield, Gary J. Ferland, R. Mark Wagner, James W. Truran, Scott J. Kenyon, Warren M. Sparks, Robert E. Williams, & L. L. Stryker.* 398, 651, 192-B13 (1992)

SAKAI, J.-I. High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

SAKAI, T. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

SAKAKIBARA, S. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

SAKAMOTO, K. Aperture Synthesis CO (J = 3–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

SAKAMOTO, KAZUSHI. Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Nondetected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)

SAKATA, AKIRA. Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

SAKEN, JON M. An *IRAS* Survey of Galactic Supernova Remnants. *Jon M. Saken, Robert A. Fesen, & J. Michael Shull.* 81, 715, 45-F9 (1992)

An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

SALAMA, F. The Ultraviolet and Visible Spectrum of the Polycyclic Aromatic Hydrocarbon $C_{10}H_8^+$: Possible Contributions to the Diffuse Interstellar Bands and to the Ultraviolet–Visible Extinction. *F. Salama & L. J. Allamandola.* 395, 301, 143-G9 (1992)

SALAMON, M. H. TeV Gamma Rays from 3C 279: A Possible Probe of Origin and Intergalactic Infrared Radiation Fields. *F. W. Stecker, O. C. De Jager, & M. H. Salamon.* 390, L49, 84-D7 (1992)

SALAS, LUIS. The Inverse Planckian Transform and Temperature Spectra. *Luis Salas.* 385, 288, 15-D12 (1992)

SALLMEN, SHAUNA. New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

SALMON, JOHN K. Dark Halos Formed via Dissipationless Collapse. I. Shapes and Alignment of Angular Momentum. *Michael S. Warren, Peter J. Quinn, John K. Salmon, & Wojciech H. Zurek.* 399, 405, 203-A11 (1992)

SALPETER, E. E. A Huge H I Cloud near a Galaxy Pair. *G. Lyle Hoffman, E. E. Salpeter, C. Lamphier, & T. Roos.* 388, L5, 52-A11 (1992)

Minimum Mass for D and H Burning during Slow Accretion. *E. E. Salpeter.* 393, 258, 117-C12 (1992)

SALPETER, EDWIN E. The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

Velocity Differences in Binary Galaxies. I. Suggestions for a Nonmonotonic, Two-Component Distribution. *Stephen E. Schneider & Edwin E. Salpeter.* 385, 32, 12-D8 (1992)

The Formation of Primordial Degenerate Protostars. *Paolo Lenzuni, David F. Chernoff, & Edwin E. Salpeter.* 393, 232, 117-A11 (1992)

SALVADOR-SOLÉ, EDUARDO. Reproducing the Local and Global Morphological Segregation between S and S0 Galaxies in Rich Clusters by Simple Ram-Pressure Stripping. *José M. Solanes & Eduardo Salvador-Solé.* 395, 91, 141-C1 (1992)

SALVATI, M. Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

SAMBRUNA, R. M. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477). *R. M. Sambruna, L. Chiappetti, A. Treves, J. M. Bonnet-Bidaud, P. Bouchet, L. Maraschi, C. Motch, M. Mouchet, & S. Van Amerongen.* 391, 750, 97-C9 (1992)

SAMS, B. J., III. X-Ray Observations of Sunspot Penumbral Structure. *B. J. Sams III, L. Golub, & N. O. Weiss.* 399, 313, 199-B8 (1992)

SANAHUJA, B. The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

SÁNCHEZ ALMEIDA, J. Observation and Interpretation of the Asymmetric Stokes Q, U, and V Line Profiles in Sunspots. *J. Sánchez Almeida & B. W. Lites.* 398, 359, 186-C1 (1992)

SÁNCHEZ D., NÉSTOR M. Propagation of Sound and Thermal Waves in a Plasma with Solar Abundances. *Miguel H. Ibáñez S., & Néstor M. Sánchez D.* 396, 717, 166-C1 (1992)

SANDAGE, ALLAN. The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

SANDBÆK, ØRNULF. A Parameter Study of the Two-Fluid Solar Wind. *Ørnulf Sandbæk, Egil Leer, & Thomas E. Holzer.* 400, 362, 213-D8 (1992)

SANDEL, B. R. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.

SANDELL, GOERAN. High-Resolution Images of Dust Emission from Orion-KL. *Melvyn Wright, Goeran Sandell, David J. Wilner, & Richard L. Plambeck.* 393, 225, 117-A1 (1992)

Submillimeter Line Observations of the Proto–Planetary Nebula CRL 2688. *P. A. Jaminet, W. C. Danchi, Göran Sandell, & E. C. Sutton.* 400, 535, 217-A7 (1992)

SANDERS, DAVID B. Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

SANDFORD, S. A. Infrared Spectroscopy of Dense Clouds in the C–H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

SANDLER, D. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

SANKARAN, SRIVATHS. Tidal Disruption of a Star by a Massive Disk (The Axisymmetric Roche Problem). *John W. Woodward, Srivaths Sankaran, & Joel E. Tohline.* 394, 248, 131-B1 (1992)

SANTANA, J. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

SANTIAGO, BASÍLIO X. Large-Scale Morphological Segregation in the Center for Astrophysics Redshift Survey. *Basílio X. Santiago & Michael A. Strauss.* 387, 9, 37-B7 (1992)

On the Origin of Globular Clusters in Elliptical Galaxies. *S. Djorgovski & Basilio X. Santiago.* 391, L85, 99-F13 (1992)

SAÑUDO, J. A Description of Semidegenerate Self-gravitating Spheres of Fermions. *M. Membrado, A. F. Pacheco, & J. Sañudo.* 390, 88, 75-B7 (1992)

SARAJEDINI, ATA. The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)

SARASWAT, PRIYAMVADA. *EXOSAT* Observations of the Be/X-Ray Binary 4U 2206+54. *Priyamvada Saraswat & Krishna M. V. Apparao.* 401, 678, 231-A1 (1992)

SARAZIN, CRAIG L. X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

Dynamics of Kepler's Supernova Remnant. *Kazimierz J. Borkowski, John M. Blondin, & Craig L. Sarazin.* 400, 222, 211-F5 (1992)

SARGENT, ANNEILA I. IRAS 16293−2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

Chemistry in Circumstellar Disks: CS toward HL Tauri. *Geoffrey A. Blake, Ewine F. van Dishoeck, & Anneila I. Sargent.* 391, L99, 100-A5 (1992)

SARGENT, WALLACE L. W. Mg II Absorption in the Spectra of 103 QSOs: Implications for the Evolution of Gas in High-Redshift Galaxies. *Charles C. Steidel & Wallace L. W. Sargent.* 80, 1, 22-B1 (1992)

The Broad Emission Line and Continuum Variations of Seyfert Galaxies. I. Time Scales and Amplitudes. *Edward I. Rosenblatt, Matthew A. Malkan, Wallace L. W. Sargent, & Anthony C. S. Readhead.* 81, 59, 35-G9 (1992)

SASAKI, MISAO. On Distances and the Hubble Parameter Determination in Gravitational Lenses. *Kazuya Watanabe, Misao Sasaki, & Kenji Tomita.* 394, 38, 128-E1 (1992)

SASLAW, WILLIAM C. Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

The Rate of Gravitational Galaxy Clustering. *William C. Saslaw.* 391, 423, 93-B4 (1992)

Biasing and Distribution Functions for Different Galaxy Types in Optical and *IRAS* Catalogs. *Ofer Lahav & William C. Saslaw.* 396, 430, 162-G1 (1992)

SASSEEN, TIMOTHY P. High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

SASSELOV, DIMITAR D. Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

SATO, KATSUHIKO. Constraints on the Universe with a Decaying Cosmological Constant from a Number Count of Faint Galaxies. *Yuzuru Yoshii & Katsuhiko Sato.* 387, L7, 43-B1 (1992)

Constraints on Cosmological Models with the Decaying Cosmological Constant from Cosmic Background Radiation Anisotropies. *Naoshi Sugiyama & Katsuhiko Sato.* 387, 439, 44-B10 (1992)

SATO, NAOHIRO. The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)

SATO, S. Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

SATOH, TAKEHIKO. Methane Band Photometry of the Faded South Equatorial Belt of Jupiter. *Takehiko Satoh & Kiyoshi Kawabata.* 384, 298, 4-F1 (1992)

SAUMON, DIDIER. The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)

The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)

SAUVAGE, MARC. On the Use of Far-Infrared Luminosity as a Star Formation Indicator in Galaxies. *Marc Sauvage & Trinh X. Thuan.* 396, L69, 167-A9 (1992)

SAVAGE, BLAIR D. Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)

Highly Ionized Gas in the Gum Nebula and Elsewhere: A Comparison of *IUE* and *Copernicus* Satellite Results. *Richard J. Edgar & Blair D. Savage.* 396, 124, 156-F4 (1992)

Observations of Highly Ionized Gas in the Galactic Halo. *Kenneth R. Sembach & Blair D. Savage.* 83, 147, 58-G11 (1992)

Ultraviolet Observations of the Gas Phase Abundances in the Diffuse Clouds toward ζ Ophiuchi at 3.5 Kilometers per Second Resolution. *Blair D. Savage, Jason A. Cardelli, & Ulysses J. Sofia.* 401, 706, 231-C9 (1992)

SAXTON, R. D. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

SCALO, JOHN. Recognition and Characterization of Hierarchical Interstellar Structure. II. Structure Tree Statistics. *Padraig Houlahan & John Scalo.* 393, 172, 116-C1 (1992)

SCAPPATICCI, GERARDO A. Radiative Instabilities and 1000 Second Fluctuations in Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 387, L73, 48-C10 (1992)

Rapid Time Variations and Radiative Instabilities of Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 400, 351, 213-C7 (1992)

SCARAMELLA, ROBERTO. Possible Geometric Patterns in 0.1*c* Scale Structure. *R. Brent Tully, Roberto Scaramella, Giampaolo Vettolani, & Giovanni Zamorani.* 388, 9, 49-B10 (1992)

Mass Fluctuations on 600 h^{-1} Mpc: A Result from Clusters of Galaxies. *Roberto Scaramella.* 390, L57, 84-E7 (1992)

SCARSI, L. See CUSUMANO, G., et al. Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment.

SCHACHTER, JONATHAN. The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

SCHAEFER, BRADLEY E. The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

High-Energy Spectral Breaks in Gamma-Ray Bursts. *Bradley E. Schaefer, Bonnard J. Teegarden, Thomas L. Cline, Gerald J. Fishman, Charles A. Meegan, Robert B. Wilson, William S. Paciesas, Geoffrey N. Pendleton, James L. Matteson, David L. Band, & John P. Lestrade.* 393, L51, 127-B11 (1992)

SCHAEFER, ROBERT K. Cosmic-Ray Secondary Antiprotons: A Closer Look. *Thomas K. Gaisser & Robert K. Schaefer.* 394, 174, 130-B10 (1992)

Structure Formation in a Universe with Cold Plus Hot Dark Matter. *Anthony van Dalen & Robert K. Schaefer.* 398, 33, 182-D9 (1992)

SCHAEFFER, R. The Large-Scale Galaxy Distribution in the Southern Sky Redshift Survey. *S. Maurogordato, R. Schaeffer, & L. N. da Costa.* 390, 17, 74-C7 (1992)

SCHAFTER, ALLEN W. The Role of the Dwarf Nova Period Distribution in Understanding the Evolution of Cataclysmic Variables. *Allen W. Schafter.* 394, 268, 131-C12 (1992)

SCHARMER, GÖRAN. On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

SCHATTEN, KENNETH H. New Information on Solar Activity, 1779–1818, from Sir William Herschel's Unpublished Notebooks. *Douglas V. Hoyt & Kenneth H. Schatten.* 384, 361, 5-D9 (1992)

Sir William Herschel's Notebooks: Abstracts of Solar Observations. *Douglas V. Hoyt & Kenneth H. Schatten.* 78, 301, 5-G9 (1992)

SCHATTENBURG, MARK L. The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

SCHECTMAN, R. M. Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)

SCHELLA, JASON. A CO $J = 2 \rightarrow 1$ Study of the Outflow Sources GL 490, GS 2591, M8E-IR, and W3 IRS 5. *George F. Mitchell, Tatsuhiko I. Hasegawa, & Jason Schella.* 386, 604, 32-G6 (1992)

SCHERRER, P. H. Observations of High-Frequency and High-Wavenumber Solar Oscillations. *D. N. Fernandes, P. H. Scherrer, T. D. Tarbell, & A. M. Title.* 392, 736, 111-D1 (1992)

SCHERRER, ROBERT J. Cosmological Explosions from Cold Dark Matter Perturbations. *Robert J. Scherrer.* 384, 391, 7-B1 (1992)

Topology of Large-Scale Structure in Seeded Hot Dark Matter Models. *Matthew M. Beaky, Robert J. Scherrer, & Jens V. Villumsen.* 387, 443, 44-C1 (1992)

Linear Velocity Fields in Non-Gaussian Models for Large-Scale Structure. *Robert J. Scherrer.* 390, 330, 79-C10 (1992)

SCHILD, RUDOLPH E. The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

SCHINDLER, S. M. The Isotopic Composition of Cosmic-Ray B, C, N, and O: Evidence for an Overabundance of ^{18}O. *P. S. Gibner, R. A. Mewaldt, S. M. Schindler, E. C. Stone, & W. R. Webber.* 391, L89, 99-G5 (1992)

SCHLEGEL, DAVID. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

SCHLOERB, F. P. Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

SCHLOERB, F. PETER. A Source Model for the L134N Molecular Cloud. *Daryl A. Swade & F. Peter Schloerb.* 392, 543, 109-A9 (1992)

SCHMEER, PATRICK. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

SCHMELZ, J. T. Resonance Scattering of Fe XVII: A Density Diagnostic. *J. T. Schmelz, J. L. R. Saba, & K. T. Strong.* 398, L115, 194-F6 (1992)

Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

SCHMELZ, JOAN T. Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

SCHMIDT, BRIAN P. Expanding Photospheres of Type II Supernovae and the Extragalactic Distance Scale. *Brian P. Schmidt, Robert P. Kirshner, & Ronald G. Eastman.* 395, 366, 146-G7 (1992)

SCHMIDT, GARY D. Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

Discovery of a Sub-Megagauss Magnetic White Dwarf through Spectropolarimetry. *Gary D. Schmidt, H. S. Stockman, & Paul S. Smith.* 398, L57, 188-A7 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

SCHMIDT, WOLFGANG. On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

SCHMITT, J. H. M. M. *ROSAT* X-Ray All-Sky Survey Observations of Hybrid Stars. *Bernhard Haisch, J. H. M. M. Schmitt, & C. Rosso.* 388, L61, 59-C7 (1992)

ROSAT X-Ray Observations of Hybrid Stars. *D. Reimers & J. H. M. M. Schmitt.* 392, L55, 113-B11 (1992)

SCHMITT, JÜRGEN H. M. M. First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

SCHNEID, E. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

SCHNEID, E. J. See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

SCHNEIDER, D. P. The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

SCHNEIDER, DONALD P. See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

Hubble Space Telescope Imaging of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, Dan Maoz, Donald P. Schneider, Brian Yanny, & Rodger Doxsey.* 392, L1, 106-A7 (1992)

The Ultraviolet Absorption Spectrum of the Quasar H1821+643 (z = 0.297). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

Faint Object Spectrograph Observations of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, George F. Hartig, Buell T. Jannuzi, Dan Maoz, & Donald P. Schneider.* 400, L51, 220-C1 (1992)

SCHNEIDER, STEPHEN E. Velocity Differences in Binary Galaxies. I. Suggestions for a Nonmonotonic, Two-Component Distribution. *Stephen E. Schneider & Edwin E. Salpeter.* 385, 32, 12-D8 (1992)

The Relation of Dust and Atomic Gas Properties of Galaxies. *John G. Spitzak & Stephen E. Schneider.* 393, 126, 115-F1 (1992)

Northern Dwarf and Low Surface Brightness Galaxies. II. The Green Bank Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Jeffrey G. Mangum, & John Miller.* 81, 5, 35-B13 (1992)

SCHÖNFELDER, VOLKER. On the Angular Extent of the Galactic 1.8 MeV Line Emission from Radioactive ^{26}Al. *Martin Varendorff & Volker Schönfelder.* 395, 158, 142-B7 (1992)

SCHOLER, M. Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)

SCHOMBERT, J. M. A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

SCHOMMER, ROBERT A. Peculiar Velocities of Field Spiral Galaxies near and beyond the Great Attractor. *Gregory D. Bothun, Robert A. Schommer, T. B. Williams, Jeremy R. Mould, & J. P. Huchra.* 388, 253, 53-D10 (1992)

SCHOU, J. The Resolving Power of Current Helioseismic Inversions for the Sun's Internal Rotation. *J. Schou, J. Christensen-Dalsgaard, & M. J. Thompson.* 385, L59, 23-E1 (1992)

SCHRAMM, DAVID N. The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

Thick Strings, the Liquid Crystal Blue Phase, and Cosmological Large-Scale Structure. *Xiaochun Luo & David N. Schramm.* 394, 12, 128-C1 (1992)

Mass Loss and a Possible Population II Lithium Dip. *David S. P. Dearborn, David N. Schramm, & L. M. Hobbs.* 394, L61, 139-E1 (1992)

SCHRAMM, S. Pycnonuclear Triple-α Fusion Rates. *S. Schramm, K. Langanke, & S. E. Koonin.* 397, 579, 178-B12 (1992)

SCHULTE-LADBECK, R. E. The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae. *R. E. Schulte-Ladbeck, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, D. Shepherd, M. Taylor, & B. A. Whitney.* 391, L37, 92-C6 (1992)

Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry. *R. E. Schulte-Ladbeck, D. S. Shepherd, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, M. Taylor, & B. A. Whitney.* 401, L105, 233-D12 (1992)

SCHULTE-LADBECK, REGINA E. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

SCHULZ, A. The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

SCHUSTER, JEFFREY. A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

SCHWARTZ, D. A. Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

SCHWARTZ, DEBORAH E. A Model of the 8–25 Micron Point Source Infrared Sky. *Richard J. Wainscoat, Martin Cohen, Kevin Volk, Helen J. Walker, & Deborah E. Schwartz.* 83, 111, 58-D11 (1992)

SCHWARZENBERG-CZERNY, A. Possible First Detection of Ultraviolet Pulses from an Intermediate Polar: V603 Aquila. *A. Schwarzenberg-Czerny, A. Udalski, & R. Monier.* 401, L19, 227-C7 (1992)

SCHWARZSCHILD, M. The Orbital Structure of Galactic Halos. *Joanna F. Lees & M. Schwarzschild.* 384, 491, 8-C1 (1992)

SCHWEIZER, FRANÇOIS. High-Resolution CO Observations of NGC 7252: A Counterrotating Central Molecular Gas Disk. *Zhong Wang, François Schweizer, & Nicholas Z. Scoville.* 396, 510, 163-G5 (1992)

SCIORTINO, S. Time Variability Studies with Photon-counting Imaging Detectors. I. A Maximum Likelihood Technique. *S. Sciortino & G. Micela.* 388, 595, 57-E11 (1992)

Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

SCOTT, DOUGLAS. Is There a Pancake at $z = 3.4$? *Douglas Scott.* 401, L53, 232-E10 (1992)

SCOVILLE, N. Z. Strongly Shocked Interstellar Gas in IC 443. I. High-Resolution Molecular Observations. *Z. Wang & N. Z. Scoville.* 386, 158, 26-B3 (1992)

The Continuum Flux from Sagittarius A* at 222 GHz. *E. Serabyn, J. E. Carlstrom, & N. Z. Scoville.* 401, L87, 233-B11 (1992)

SCOVILLE, NICHOLAS Z. High-Resolution CO Observations of NGC 7252: A Counterrotating Central Molecular Gas Disk. *Zhong Wang, François Schweizer, & Nicholas Z. Scoville.* 396, 510, 163-G5 (1992)

SCOVILLE, NICK. The Molecular Interstellar Medium in Two Giant H II Regions in M33: NGC 604 and NGC 595. *Christine D. Wilson & Nick Scoville.* 385, 512, 19-E5 (1992)

SCOVILLE, NICK Z. Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

SCUDDER, JACK D. On the Causes of Temperature Change in Inhomogeneous Low-Density Astrophysical Plasmas. *Jack D. Scudder.* 398, 299, 185-E1 (1992)

Why All Stars Should Possess Circumstellar Temperature Inversions. *Jack D. Scudder.* 398, 319, 185-F11 (1992)

SCUDERI, S. Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

SEAQUIST, E. R. Observations of Symbiotic Stars at Millimeter and Submillimeter Wavelengths. *E. R. Seaquist & A. R. Taylor.* 387, 624, 46-D5 (1992)

SECCO, L. The Potential Energy Tensors for Subsystems. *R. Caimmi & L. Secco.* 395, 119, 141-E11 (1992)

SEELY, J. F. The Potential for Plasma Diagnostics from Stellar Extreme-Ultraviolet Observations. *U. Feldman, P. Mandelbaum, J. F. Seely, G. A. Doschek, & H. Gursky.* 81, 387, 40-D3 (1992)

Observation of Upflows during Soft X-Ray Solar Flares. *J. F. Seely & Uri Feldman.* 394, 697, 138-B9 (1992)

SEETHA, S. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

SEGGEWISS, WILHELM. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

SEIDEN, PHILIP E. Solar Active Regions as a Percolation Phenomenon. *Donat G. Wentzel & Philip E. Seiden.* 390, 280, 77-D10 (1992)

SEIFFERT, MICHAEL. A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

SEITTER, WALTRAUT C. The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)

SEKIMOTO, Y. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

SELLGREN, K. The 3 Micron Spectrum of the Classical Be Star β Monocerotis A. *K. Sellgren & R. G. Smith.* 388, 178, 51-B13 (1992)

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

SELVELLI, PIER LUIGI. The Nature of the Recurrent Nova T Coronae Borealis: Ultraviolet Evidence for a White Dwarf Accretor. *Pier Luigi Selvelli, Angelo Cassatella, & Roberto Gilmozzi.* 393, 289, 117-F12 (1992)

SEMBACH, KENNETH R. Observations of Highly Ionized Gas in the Galactic Halo. *Kenneth R. Sembach & Blair D. Savage.* 83, 147, 58-G11 (1992)

SEN, A. D. Formaldehyde Reactions in Dark Clouds. *A. D. Sen, V. G. Anicich, & S. R. Federman.* 391, 141, 87-F10 (1992)

SERABYN, E. Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

The Continuum Flux from Sagittarius A* at 222 GHz. *E. Serabyn, J. E. Carlstrom, & N. Z. Scoville.* 401, L87, 233-B11 (1992)

SERABYN, G. The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

SERLEMITSOS, P. J. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

SERNA, A. Limits on a Possible Violation of the Strong Equivalence Principle from Primordial Nucleosynthesis. *A. Serna & R. Domínguez-Tenreiro.* 389, 1, 60-B1 (1992)

Primordial Nucleosynthesis Bounds on the Brans-Dicke Theory. *A. Serna, R. Domínguez-Tenreiro, & G. Yepes.* 391, 433, 93-C4 (1992)

SETTI, GIANCARLO. *EXOSAT* X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

SHAFER, R. A. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

SHAFTER, ALLEN W. Eclipse Maps of the Accretion Disk in the Classical Nova V Persei. *Janet H. Wood, Timothy M. C. Abbott, & Allen W. Shafter.* 393, 729, 124-G10 (1992)

The Spectroscopic and Photometric Evolution of Novae in the Bulge of M31. *Austin B. Tomaney & Allen W. Shafter.* 81, 683, 45-C11 (1992)

SHAHAM, JACOB. Orbital Angular Momentum Loss in PSR 1957+20. *Menashe Banit & Jacob Shaham.* 388, L19, 52-B11 (1992)

SHANDARIN, SERGEI F. Gravitational Clustering in the Expanding Universe: Controlled High-Resolution Studies in Two Dimensions: Erratum. *John Francis Beacom, Kurt G. Dominik, Adrian L. Melott, Sam P. Perkins, & Sergei F. Shandarin.* 384, 665, 10-D1 (1992) (Orig. paper in 372, 351, 80-B7 (1991))

The Three-Point Function in an Ensemble of Numerical Simulations. *J. N. Fry, Adrian L. Melott, & Sergei F. Shandarin.* 393, 431, 121-C5 (1992)

Coherent Structures in the Universe and the Adhesion Model. *Lev Kofman, Dmitri Pogosyan, Sergei F. Shandarin, & Adrian L. Melott.* 393, 437, 121-D1 (1992)

Percolation Analysis of Nonlinear Structures in Scale-free Two-dimensional Simulations. *Kurt G. Dominik & Sergei F. Shandarin.* 393, 450, 121-E1 (1992)

SHANKAR, ANURAG. Thermonuclear Runaways in Nova Outbursts. *Anurag Shankar, David Arnett, & Bruce A. Fryxell.* 394, L13, 133-C1 (1992)

SHAO, MICHAEL. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

SHAPIRO, PAUL R. Radiative Shocks and Hydrogen Molecules in Pregalactic Gas: The Effects of Postshock Radiation. *Hyesung Kang & Paul R. Shapiro.* 386, 432, 30-F13 (1992)

Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

SHAPIRO, STUART L. Equilibrium Stellar Systems with Spindle Singularities. *Stuart L. Shapiro & Saul A. Teukolsky.* 388, 287, 53-G10 (1992)

Spin-up of a Rapidly Rotating Star by Angular Momentum Loss: Effects of General Relativity. *Gregory B. Cook, Stuart L. Shapiro, & Saul A. Teukolsky.* 398, 203, 184-D1 (1992)

Hydrodynamical Evolution of Coalescing Binary Neutron Stars. *Frederic A. Rasio & Stuart L. Shapiro.* 401, 226, 223-G9 (1992)

SHAVER, ERIC G. On the Rotation of Polarization by a Gravitational Lens. *C. C. Dyer & Eric G. Shaver.* 390, L5, 78-B1 (1992)

SHAVER, P. A. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

SHAVIV, G. Spherically Symmetric, Expanding, Non–LTE Model Atmospheres for Novae during Their Early Stages. *P. H. Hauschildt, R. Wehrse, S. Starrfield, & G. Shaviv.* 393, 307, 118-A4 (1992)

Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)

SHAVIV, NIR. Dynamics of Fronts in Thermally Bistable Fluids. *Christian Elphick, Oded Regev, & Nir Shaviv.* 392, 106, 102-C9 (1992)

SHAYA, EDWARD J. Nearby Galaxy Flows Modeled by the Light Distribution. *Edward J. Shaya, R. Brent Tully, & Michael J. Pierce.* 391, 16, 86-C5 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution: Distances, Model, and the Local Velocity Anomaly. *R. Brent Tully, Edward J. Shaya, & Michael J. Pierce.* 80, 479, 30-B1 (1992)

SHEELEY, N. R., JR. On Potential Field Models of the Solar Corona. *Y.-M. Wang & N. R. Sheeley, Jr.* 392, 310, 104-G1 (1992)

A New Determination of the Solar Rotation Rate. *N. R. Sheeley, Jr., Y.-M. Wang, & A. G. Nash.* 401, 378, 225-F9 (1992)

SHEFFER, YARON. Fractionation of CO in the Diffuse Clouds toward ζ Ophiuchi. *Yaron Sheffer, S. R. Federman, David L. Lambert, & Jason A. Cardelli.* 397, 482, 176-G3 (1992)

SHEMANSKY, D. E. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.

SHEPHERD, D. See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

SHEPHERD, D. S. See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

SHIBA, H. Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

SHIBATA, K. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

SHIBATA, K. M. High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

SHIBATA, KAZUNARI. Giant Molecular Cloud Formation through the Parker Instability in a Skewed Magnetic Field. *Tomoyuki Hanawa, Ryoji Matsumoto, & Kazunari Shibata.* 393, L71, 127-E1 (1992)

SHIBATA, S. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

SHIELDS, J. C. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

SHIELDS, JOSEPH C. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

Normal O Stars in Dense Media Generate LINERs. *Joseph C. Shields.* 399, L27, 200-C1 (1992)

SHIGEYAMA, TOSHIKAZU. Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

SHIH, K. L. Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

SHIMASAKU, KAZUHIRO. A Study of the Velocity Field in the Local Supercluster Based on a New Peculiar-Velocity Sample. *Kazuhiro Shimasaku & Sadanori Okamura.* 398, 441, 189-E9 (1992)

SHIPMAN, HARRY L. Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

SHLOSMAN, ISAAC. Magnetic Acceleration of Broad Emission-Line Clouds in Active Galactic Nuclei. *Robert T. Emmering, Roger D. Blandford, & Isaac Shlosman.* 385, 460, 19-A1 (1992)

SHORE, STEVEN N. A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)

Upper Limits for CO in the Old Galactic Novae NQ Vulpeculae, QU Vulpeculae, and Nova Vulpeculae 1987 from IRAM Observations. *Steven N. Shore & Jonathan Braine.* 392, L59, 113-C1 (1992)

Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

SHOUB, EDWARD C. Close Encounters in Coulomb and Gravitational Scattering. I. Relaxation of Isotropic Test-Particle Distributions by Like-Particle Collisions. *Edward C. Shoub.* 389, 558, 68-D8 (1992)

SHRADER, C. R. The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

SHU, FRANK H. Near-resonant Excitation and Propagation of Eccentric Density Waves by External Forcing. *Eve C. Ostriker, Frank H. Shu, & Fred C. Adams.* 399, 192, 197-E13 (1992)

SHULL, J. MICHAEL. An *IRAS* Survey of Galactic Supernova Remnants. *Jon M. Saken, Robert A. Fesen, & J. Michael Shull.* 81, 715, 45-F9 (1992)

An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

The Synchrotron Bays of the Crab Nebula: A Magnetic Structure Associated with a Presupernova Circumstellar Disk. *Robert A. Fesen, Crystal L. Martin, & J. Michael Shull.* 399, 599, 205-C7 (1992)

SHULMAN, BONNIE JEAN. Magnetohydrodynamic Waves in Sharply and Smoothly Bounded Cylinders. *Bonnie Jean Shulman & Ellen G. Zweibel.* 389, 428, 65-C1 (1992)

SHURE, MARK A. Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

Near-Infrared Images of the Nuclear Region of NGC 5128. *Paula C. Turner, William J. Forrest, Judith L. Pipher, & Mark A. Shure.* 393, 648, 123-G7 (1992)

SHURE, MARK S. An Absolute Calibration of Type Ia Supernovae and the Value of H_0. *Michael J. Pierce, Michael E. Ressler, & Mark S. Shure.* 390, L45, 84-D1 (1992)

SHUTER, W. L. H. A New Tidal Model of the Magellanic Stream. *W. L. H. Shuter.* 386, 101, 25-D1 (1992)

SIDHER, S. D. See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

SIGALOTTI, LEONARDO DI G. Rotating Stars: The Angular Momentum Constraints. *Fernando de Felice & Leonardo Di G. Sigalotti.* 389, 386, 64-F7 (1992)

SIGURDSSON, STEINN. Planets in Globular Clusters? *Steinn Sigurdsson.* 399, L95, 201-D5 (1992)

A Novel Mechanism for Creating Double Pulsars. *Steinn Sigurdsson & Lars Hernquist.* 401, L93, 233-C7 (1992)

SIKORA, MAREK. Reaction Rate and Energy-Loss Rate for Photopair Production by Relativistic Nuclei. *Michał J. Chodorowski, Andrzej A. Zdziarski, & Marek Sikora.* 400, 181, 211-B9 (1992)

SILBER, A. H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

SILK, JOSEPH. The Faint Galaxy Contribution to the Diffuse Extragalactic Background Light. *Shaun Cole, Marie-Agnes Treyer, & Joseph Silk.* 385, 9, 12-B10 (1992)

Anisotropies of the Cosmic Microwave Background in Nonstandard Cold Dark Matter Models. *Nicola Vittorio & Joseph Silk.* 385, L9, 17-B6 (1992)

The Formation of Giant Low Surface Brightness Galaxies. *Yehuda Hoffman, Joseph Silk, & Rosemary F. G. Wyse.* 388, L13, 52-B6 (1992)

The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

SILLS, K. R. On the Photon Diffusion Time Scale for the Sun. *R. Mitalas & K. R. Sills.* 401, 759, 232-A1 (1992)

SILVA, DAVID R. A New Library of Stellar Optical Spectra. *David R. Silva & Mark E. Cornell.* 81, 865, 48-A9 (1992)

SILVERBERG, R. F. Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

SIMILON, PHILIPPE L. Alfvén Wave Transmission through the Solar Atmosphere. *Philippe L. Similon & Shahrokh Zargham.* 388, 644, 58-C1 (1992)

SIMMONS, K. E. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.

SIMON, GEORGE W. On the Evidence for Mesogranules in Solar Power Spectra. *Gregory P. Ginet & George W. Simon.* 386, 359, 28-F1 (1992)

SIMON, M. Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)

10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)

Dusty Disks in the Multiple Systems UZ Tauri and GG Tauri. *M. Simon & S. Guilloteau.* 397, L47, 173-F9 (1992)

SIMON, NORMAN R. Evolution versus Pulsation along the Horizontal Branch of M15. *Norman R. Simon.* 387, 162, 39-A3 (1992)

An RR Lyrae Period Shift in Terms of the Fourier Parameter ϕ_{31}. *Christine M. Clement, Michael Jankulak, & Norman R. Simon.* 395, 192, 142-E9 (1992)

SIMON, RICHARD S. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

SIMON, THEODORE. Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)

SIMONETTI, JOHN H. Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

Faraday Rotation Measure Irregularities through the Supernova Remnant CTA 1: A Site of Enhanced Interstellar Plasma Turbulence. *John H. Simonetti.* 386, 170, 26-C3 (1992)

SIMONS, D. A. A Near-Infrared Search for Brown Dwarfs in the Pleiades. *D. A. Simons & E. E. Becklin.* 390, 431, 80-F10 (1992)

SINCELL, MARK W. Magnetized Stimulated Scattering in Pulsar Winds. *Mark W. Sincell & Julian H. Krolik.* 395, 553, 149-F7 (1992)

SINGH, K. P. X-Ray Continuum and Line Emission of the Seyfert Galaxy MCG−5-23-16. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 385, 132, 13-E10 (1992)

SION, EDWARD M. The Identification of Highly Ionized Metal Species in the Hot DA1 White Dwarf G191-B2B with the *Hubble Space Telescope* Faint Object Spectrograph. *Edward M. Sion, Ralph C. Bohlin, Richard W. Tweedy, & Gerard P. Vauclair.* 391, L29, 92-B11 (1992)

Hubble Space Telescope FOS Observations of KPD 0005+5106: A Subluminous WN-WC Descendant with Ongoing Mass Outflow? *Edward M. Sion & Ronald A. Downes.* 396, L79, 167-B7 (1992)

SITKO, M. L. Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

SITKO, MICHAEL L. Intensive Optical Monitoring of the BL Lacertae Object PKS 2155−304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

SITKO, SUSAN D. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

SKIBO, J. G. Diffuse 0.511 MeV Line Emission and the Distribution of Positron Annihilation in the Galaxy. *J. G. Skibo, R. Ramaty, & M. Leventhal.* 397, 135, 169-F3 (1992)

SKIFF, BRIAN A. The Activity Cycle of σ Draconis. *David F. Gray, Sallie L. Baliunas, G. W. Lockwood, & Brian A. Skiff.* 400, 681, 219-A1 (1992)

SKINNER, C. J. The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)

Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)

SLATER, G. L. Impulsive Phase Fe Kα Emission in a Flare of 1989 March. *D. M. Zarro, B. R. Dennis, & G. L. Slater.* 391, 865, 98-F6 (1992)

SLAVIN, JONATHAN D. Completing the Evolution of Supernova Remnants and Their Bubbles. *Jonathan D. Slavin & Donald P. Cox.* 392, 131, 102-E9 (1992)

SLAWSON, ROBERT W. A Homogeneous Catalog of New *UBV* and Hβ Photometry of B- and A-Type Stars in and around the Scorpius-Centaurus OB Association. *Robert W. Slawson, Robert J. Hill, & John D. Landstreet.* 82, 117, 50-E9 (1992)

SLETTEBAK, ARNE. Physical Properties of Be Star Envelopes from Balmer and Fe II Emission Lines. *Arne Slettebak, George W. Collins II, & Ryland Truax.* 81, 335, 39-D13 (1992)

SLOAN, G. C. Spatial Structure in the 10 Micron Spectrum of HD 44179 (The Red Rectangle). *G. L. Grasdalen, G. C. Sloan, & P. D. LeVan.* 384, L25, 6-D1 (1992)

8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)

SLOWIK, D. Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)

SLYSH, V. I. The Synchro-Compton Limit of the Brightness Temperature of Nonstationary Radio Sources. *V. I. Slysh.* 391, 453, 93-E4 (1992)

The Detection of a New, Nonmasing Transition of Methanol at 28.3 GHz. *V. I. Slysh, S. V. Kalenskii, & I. E. Val'tts.* 397, L43, 173-F3 (1992)

SMALE, A. P. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

SMALE, ALAN P. Long-Term Variability in Low-Mass X-Ray Binaries: A Study Using Data from *Vela 5B*. *Alan P. Smale & James C. Lochner.* 395, 582, 150-B13 (1992)

Ginga Observations of the Dipping Low-Mass X-Ray Binaries XB 1916–053 and EXO 0748–676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)

SMETTE, A. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

SMITH, A. G. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

SMITH, ANDREW M. Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

SMITH, B. F. Off-Center Nuclei in Galaxies. *R. H. Miller & B. F. Smith.* 393, 508, 122-B7 (1992)

SMITH, BEVERLY J. The Evolutionary History of the Interacting Galaxy System NGC 7714/7715 (Arp 284). *Beverly J. Smith & John F. Wallin.* 393, 544, 122-E7 (1992)

SMITH, CRAIG K. High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

SMITH, ERIC P. See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275. *Eric P. Smith, Robert W. O'Connell, Ralph C. Bohlin, Kwang-Ping Cheng, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Paul Hintzen, Wayne B. Landsman, Susan G. Neff, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L49, 145-D9 (1992)

SMITH, GRAEME H. CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

SMITH, HARDING E. A VLBI Search for AGN Radio Cores in Starburst Galaxies. *Colin J. Lonsdale, Carol J. Lonsdale, & Harding E. Smith.* 391, 629, 95-G6 (1992)

SMITH, HAYWOOD, JR. On the Sensitivity of the *N*-Body Problem to Small Changes in Initial Conditions. II. *Henry E. Kandrup & Haywood Smith, Jr.* 386, 635, 33-C1 (1992)

Mass Segregation, Relaxation, and the Coulomb Logarithm in *N*-Body Systems. *Haywood Smith, Jr.* 398, 519, 190-E10 (1992)

On the Sensitivity of the *N*-Body Problem to Small Changes in Initial Conditions. III. *Henry E. Kandrup, Haywood Smith, Jr., & David E. Willmes.* 399, 627, 205-F9 (1992)

SMITH, HOWARD A. Multiple Jets from the Young Star IRAS 21334+5039. *Howard A. Smith & Jacqueline Fischer.* 398, L99, 194-D1 (1992)

SMITH, I. A. Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)

SMITH, MICHAEL D. Switch Shocks in Molecular Clouds. I. Plane-parallel Magnetohydrodynamic Analysis. *Michael D. Smith.* 390, 447, 81-A1 (1992)

SMITH, P. L. High-Resolution Photoabsorption Cross Sections of $E^1\Pi$–$X^1\Sigma^+$ Vibrational Bands of ^{12}CO and ^{13}CO. *G. Stark, P. L. Smith, K. Ito, & K. Yoshino.* 395, 705, 152-B5 (1992)

SMITH, PAUL S. Discovery of a Sub-Megagauss Magnetic White Dwarf through Spectropolarimetry. *Gary D. Schmidt, H. S. Stockman, & Paul S. Smith.* 398, L57, 188-A7 (1992)

Intensive Optical Monitoring of the BL Lacertae Object PKS 2155–304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

SMITH, R. CHRIS. Six Balmer-dominated Supernova Remnants: Erratum. *R. Chris Smith, Robert P. Kirshner, William P. Blair, & P. Frank Winkler.* 384, 665, 10-D1 (1992) (Orig. paper in 375, 652, 120-G1 (1991))

SMITH, R. G. The 3 Micron Spectrum of the Classical Be Star β Monocerotis A. *K. Sellgren & R. G. Smith.* 388, 178, 51-B13 (1992)

SMITH, R. K. Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

SMITH, V. V. Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)

SMITH, VERNE V. The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

Sodium, Aluminum, and Oxygen Abundance Variations in Giants in the Globular Cluster M4. *Jeremy J. Drake, Verne V. Smith, & Nicholas B. Suntzeff.* 395, L95, 154-A10 (1992)

SMITH, Z. K. The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

SMOOT, G. A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

SMOOT, G. F. See FISCHER, M. L., et al. A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales.

See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See ALSOP, D. C., et al. A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales.

Structure in the *COBE* Differential Microwave Radiometer First-Year Maps. *G. F. Smoot, C. L. Bennett, A. Kogut, E. L. Wright, J. Aymon, N. W. Boggess, E. S. Cheng, G. De Amici, S. Gulkis, M. G. Hauser, G. Hinshaw, P. D. Jackson, M. Janssen, E. Kaita, T. Kelsall, P. Keegstra, C. Lineweaver, K. Loewenstein, P. Lubin, J. Mather, S. S. Meyer, S. H. Moseley, T. Murdock, L. Rokke, R. F. Silverberg, L. Tenorio, R. Weiss, & D. T. Wilkinson.* 396, L1, 160-B1 (1992)

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

SNELL, R. L. Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

SNELL, RONALD L. Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

Structure and Kinematics of Dense Gas Associated with the Supernova Remnant IC 443. *R. L. Dickman, Ronald L. Snell, L. M. Ziurys, & Yi-Long Huang.* 400, 203, 211-C9 (1992)

SNOW, T. P. Interstellar Absorption along the Line of Sight to Theta Carinae Using *Copernicus* Observations. *M. M. Allen, E. B. Jenkins, & T. P. Snow.* 83, 261, 61-D1 (1992)

SNOW, THEODORE P. Velocity Structure in Optical CH^+ Lines toward HD 190603 and Implications for the Formation of CH^+. *M. M. Allen & Theodore P. Snow.* 391, 152, 87-G13 (1992)

The Diffuse Interstellar Cloud toward HD 179406 (20 Aquilae). *Margaret Murray Hanson, Theodore P. Snow, & John H. Black.* 392, 571, 109-C12 (1992)

The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

On Ionized Napthalene ($C_{10}H_8^+$) as a Carrier of Diffuse Interstellar Bands. *Theodore P. Snow.* 401, 775, 232-B10 (1992)

SNOWDEN, S. L. The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

SNYDER, L. E. High Spatial Resolution Maps of Circumstellar SiC_2 in IRC +10216. *P. D. Gensheimer, Lauren Likkel, & L. E. Snyder.* 388, L31, 52-C11 (1992)

SNYDER, LEWIS E. Are the NGC 7538 Formaldehyde Masers Really Unusual? *Preethi Pratap, Lewis E. Snyder, & Wolfgang Batrla.* 387, 241, 40-A1 (1992)

SODA, JIRO. Nonlinear Gravitational Evolution of Phases and Amplitudes in One-dimensional Cosmological Density Fields. *Jiro Soda & Yasushi Suto.* 396, 379, 162-B1 (1992)

SOFIA, S. Preliminary Results of a Balloon Flight of the Solar Disk Sextant. *E. Maier, L. Twigg, & S. Sofia.* 389, 447, 65-D11 (1992)

SOFIA, SABATINO. A Formulation of Convection for Stellar Structure and Evolution Calculations without the Mixing-Length Theory Approximations. I. Application to the Sun. *Thomas Joseph Lydon, Peter A. Fox, & Sabatino Sofia.* 397, 701, 179-G3 (1992)

SOFIA, ULYSSES J. Ultraviolet Observations of the Gas Phase Abundances in the Diffuse Clouds toward ζ Ophiuchi at 3.5 Kilometers per Second Resolution. *Blair D. Savage, Jason A. Cardelli, & Ulysses J. Sofia.* 401, 706, 231-C9 (1992)

SOFUE, Y. Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)

SOFUE, YOSHIAKI. Outflowing Molecular Gas in NGC 3079. *Judith A. Irwin & Yoshiaki Sofue.* 396, L75, 167-B1 (1992)

SOIFER, B. T. High Spatial Resolution Continuum and Hα Imaging of the High-Redshift *IRAS* Source FSC 10214+4724. *B. T. Soifer, G. Neugebauer, K. Matthews, C. Lawrence, & J. Mazzarella.* 399, L55, 200-F1 (1992)

SOKER, NOAM. Excitation of Pressure Modes in Common Envelopes. *Noam Soker.* 386, 190, 26-E1 (1992)

Jet Formation in the Transition from the Asymptotic Giant Branch to Planetary Nebulae. *Noam Soker.* 389, 628, 69-C1 (1992)

Excitation of Gravity Waves in Common Envelopes. *Noam Soker.* 399, 185, 197-E3 (1992)

SOLANES, JOSÉ M. Reproducing the Local and Global Morphological Segregation between S and S0 Galaxies in Rich Clusters by Simple Ram-Pressure Stripping. *José M. Solanes & Eduardo Salvador-Solé.* 395, 91, 141-C1 (1992)

SOLOMON, P. M. A Triggering Mechanism for Enhanced Star Formation in Colliding Galaxies. *Chanda J. Jog & P. M. Solomon.* 387, 152, 38-G6 (1992)

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

SOMMER, M. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

SONNEBORN, GEORGE. A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)

Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

SOOD, R. K. Variability of the Galactic Center in the Hard X-Ray Range. *A. Bazzano, C. La Padula, P. Ubertini, & R. K. Sood.* 385, L17, 17-C1 (1992)

Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)

SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration. *R. K. Sood, L. Waldron, G. K. Rochester, T. J. Sumner, G. Frye, T. Jenkins, R. Staubert, E. Kendziorra, P. Ubertini, & A. Bazzano.* 395, 637, 151-B3 (1992)

Hard X-Ray Observation of Scorpius X-1: Erratum. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 396, 378, 159-G3 (1992) (Orig. paper in 386, 710, 34-B4 (1992))

SOON, W. H. Analytical Cross Sections and Rate Coefficients for H-H Inelastic Collisions. *W. H. Soon.* 394, 717, 138-D6 (1992)

Maximum Principal Quantum Numbers of the Atomic Hydrogen in the Solar Chromosphere and Photosphere. *J. A. Kunc & W. H. Soon.* 396, 364, 159-E11 (1992)

SOUNDARARAJAPERUMAL, S. *EXOSAT* Observations of the Broad-Line Radio Galaxy 3C 382. *K. K. Ghosh & S. Soundararajaperumal.* 389, 179, 62-C1 (1992)

X-Ray Observations of the Seyfert 1 Galaxy MCG 2-58-22. *K. K. Ghosh & S. Soundararajaperumal.* 398, 501, 190-D1 (1992)

SPADARO, D. Steady Siphon Flows in Closed Coronal Structures: Comparison with Extreme-Ultraviolet Observations. *G. Peres, D. Spadaro, & G. Noci.* 389, 777, 71-A8 (1992)

Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

SPARKS, W. B. IC 5063: A Merger Remnant with a Hidden Luminous Active Nucleus: Erratum. *L. Colina, W. B. Sparks, & F. Macchetto.* 385, 766, 22-E13 (1992) (Orig. paper in 370, 102, 48-C5 (1991))

See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

Mergers, Cooling Flows, and Evaporation. *W. B. Sparks.* 399, 66, 196-A5 (1992)

SPARKS, WARREN M. A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)

See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

SPENCER, R. E. VLBI Observations of the X-Ray Binary LS I +61°303. *A. R. Taylor, H. T. Kenny, R. E. Spencer, & A. Tzioumis.* 395, 268, 143-D11 (1992)

SPENCER, S. J. On the Amplification of Large-Scale Magnetic Fields in Spiral Galaxies by Galactic Winds. *S. J. Spencer & L. E. Cram.* 400, 484, 216-C12 (1992)

SPERGEL, DAVID N. Dwarf Spheroidal Galaxies and the Mass of the Neutrino. *Ortwin E. Gerhard & David N. Spergel.* 389, L9, 66-B11 (1992)

COBE Limits on Explosive Structure Formation Scenarios. *Janna J. Levin, Katherine Freese, & David N. Spergel.* 389, 464, 67-C5 (1992)

The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

Dwarf Spheroidal Galaxies and Non-Newtonian Gravity. *Ortwin E. Gerhard & David N. Spergel.* 397, 38, 168-E1 (1992)

Statistical Mechanics of Violent Relaxation. *David N. Spergel & Lars Hernquist.* 397, L75, 180-G7 (1992)

Formation of Shells in Major Mergers. *Lars Hernquist & David N. Spergel.* 399, L117, 207-G1 (1992)

SPIELFIEDEL, A. Theoretical Vibration-Rotation Spectrum of Si_2C. *W. Gabriel, G. Chambaud, P. Rosmus, A. Spielfiedel, & N. Feautrier.* 398, 706, 192-G7 (1992)

SPIESMAN, WILLIAM J. Sodium Abundance Variations in Metal-poor Dwarfs. *William J. Spiesman.* 397, L103, 181-D1 (1992)

SPINOGLIO, LUIGI. Infrared Line Diagnostics of Active Galactic Nuclei. *Luigi Spinoglio & Matthew A. Malkan.* 399, 504, 204-B11 (1992)

SPINRAD, HYRON. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

SPITZAK, JOHN G. The Relation of Dust and Atomic Gas Properties of Galaxies. *John G. Spitzak & Stephen E. Schneider.* 393, 126, 115-F1 (1992)

SPITZER, LYMAN, JR. Highly Ionized Atoms toward HD 93521. *Lyman Spitzer, Jr., & Edward L. Fitzpatrick.* 391, L41, 92-C11 (1992)

SPLINTER, RANDALL J. Can Neutrino Decay–driven Mock Gravity Save Hot Dark Matter? *Randall J. Splinter & Adrian L. Melott.* 394, 7, 128-B8 (1992)

SPOELSTRA, T. A. TH. The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

SPRAYBERRY, DAVID. Extinction in Low-Ionization Broad Absorption Line Quasi-stellar Objects. *David Sprayberry & Craig B. Foltz.* 390, 39, 74-E6 (1992)

SPRUIT, H. C. The Conversion of p-Modes to Slow Modes and the Absorption of Acoustic Waves by Sunspots. *H. C. Spruit & T. J. Bogdan.* 391, L109, 100-B7 (1992)

SRAMEK, RICHARD A. The 20 and 6 Centimeter Radio Light Curves for SN 1981K: A Type II Radio Supernova. *Schuyler D. Van Dyk, Kurt W. Weiler, Richard A. Sramek, & Nino Panagia.* 396, 195, 157-E4 (1992)

Full Evolution of the 6 and 20 Centimeter Radio Emission from SN 1980K. *Kurt W. Weiler, Schuyler D. Van Dyk, Nino Panagia, & Richard A. Sramek.* 398, 248, 184-G9 (1992)

SREEKANTAN, B. V. Evidence for Time Variability of PeV Energy Flux from Cygnus X-3: Ooty Observations during the Period 1984–1987. *S. C. Tonwar, S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, & R. Srivatsan.* 390, 273, 77-D1 (1992)

SREEKUMAR, P. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

Observations of the Large Magellanic Cloud in High-Energy Gamma Rays. *P. Sreekumar, D. L. Bertsch, B. L. Dingus, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, P. L. Nolan, K. Pinkau, E. J. Schneid, & D. J. Thompson.* 400, L67, 220-E1 (1992)

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

SRIVATSAN, R. Evidence for Time Variability of PeV Energy Flux from Cygnus X-3: Ooty Observations during the Period 1984–1987. *S. C. Tonwar, S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, & R. Srivatsan.* 390, 273, 77-D1 (1992)

STAFFORD, R. P. The Oscillator Strength of the Si II $3s^2 3p\ ^2P$–$3s3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)

STAGG, C. R. The Eclipsing Binary AI Phoenicis: New Results Based on an Improved Light Curve Analysis Program. *E. F. Milone, C. R. Stagg, & R. L. Kurucz.* 79, 123, 14-E11 (1992)

Modeling of the Eclipsing Binaries in the Globular Cluster NGC 5466. *J. Kallrath, E. F. Milone, & C. R. Stagg.* 389, 590, 68-G1 (1992)

STAHLER, STEVEN W. The Evolution of Intermediate-Mass Protostars. II. Influence of the Accretion Flow. *Francesco Palla & Steven W. Stahler.* 392, 667, 110-E5 (1992)

STANFORD, S. A. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

STANFORD, S. ADAM. The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)

A Near-Infrared Imaging Survey of Interacting Galaxies: The Small Angular-Size Arp Systems. *Howard A. Bushouse & S. Adam Stanford.* 79, 213, 16-G11 (1992)

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

STANGA, R. M. Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

STARK, ANTONY A. The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

STARK, G. High-Resolution Photoabsorption Cross Sections of $E^1\Pi$–$X^1\Sigma^+$ Vibrational Bands of ^{12}CO and ^{13}CO. *G. Stark, P. L. Smith, K. Ito, & K. Yoshino.* 395, 705, 152-B5 (1992)

STARKMAN, GLENN D. A Quantitative Measure of Structure in the Three-dimensional Galaxy Distribution: Sheets and Filaments. *Arif Babul & Glenn D. Starkman.* 401, 28, 221-D3 (1992)

STARKOVICH, STEVEN P. A Cosmological Field Theory. *Steven P. Starkovich & Fred I. Cooperstock.* 398, 1, 182-B1 (1992)

STARRFIELD, S. Spherically Symmetric, Expanding, Non–LTE Model Atmospheres for Novae during Their Early Stages. *P. H. Hauschildt, R. Wehrse, S. Starrfield, & G. Shaviv.* 393, 307, 118-A4 (1992)

STARRFIELD, S. G. Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

STARRFIELD, SUMNER. A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)

See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

STAUBERT, R. See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

STAUDE, H. J. The FU Orionis–Type Spectrum and Bipolar Outflow of Parsamyan 21. *H. J. Staude & Th. Neckel.* 400, 556, 217-C6 (1992)

STAUFFER, JOHN R. First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

STEBBINS, ALBERT. Loitering Universe. *Varun Sahni, Hume Feldman, & Albert Stebbins.* 385, 1, 12-B1 (1992)

Large-Scale Microwave Anisotropy from Gravitating Seeds. *Shoba Veeraraghavan & Albert Stebbins.* 395, L55, 153-E1 (1992)

The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

STECHER, THEODORE P. The Ultraviolet Imaging Telescope: Design and Performance. *Theodore P. Stecher, Gerald R. Baker, Donna D. Bartoe, Frank H. Bauer, Albert Blum, Ralph C. Bohlin, Harvey R. Butcher, Peter C. Chen, Nicholas R. Collins, Robert H. Cornett, John J. Deily, Michael R. Greason, Gregory S. Hennessy, Jesse K. Hill, Robert S. Hill, Paul M. Hintzen, Joan E. Isensee, Peter J. Kenny, Wayne B. Landsman, David L. Linard, Stephen P. Maran, Susan G. Neff, Granville R. Nichols, Joseph Novello, Robert W. O'Connell, Joel D. Offenberg, Ronald A. Parise, Barbara B. Pfarr, Thomas B. Plummer, Foy F. Richardson, Morton S. Roberts, Susan D. Sitko, Andrew M. Smith, Alfred K. Stober, John D. Stolarik, & Jack C. Tebay.* 395, L1, 144-C7 (1992)

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

See CORNETT, ROBERT H., et al. Ultraviolet Imaging Telescope Observations of the Cygnus Loop.

See HENNESSY, GREGORY S., et al. Ultraviolet Imaging Telescope Observations of the Crab Nebula.

See HILL, ROBERT S., et al. An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904).

See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

See CHENG, KWANG-PING, et al. *Astro-1* Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31.

See HILL, JESSE K., et al. Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81.

See CHEN, PETER C., et al. Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74).

See O'CONNELL, ROBERT W., et al. Ultraviolet Imaging of Old Populations in Nearby Galaxies.

See SMITH, ERIC P., et al. Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275.

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

STECKER, F. W. TeV Gamma Rays from 3C 279: A Possible Probe of Origin and Intergalactic Infrared Radiation Fields. *F. W. Stecker, O. C. De Jager, & M. H. Salamon.* 390, L49, 84-D7 (1992)

STEIDEL, CHARLES C. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

Mg II Absorption in the Spectra of 103 QSOs: Implications for the Evolution of Gas in High-Redshift Galaxies. *Charles C. Steidel & Wallace L. W. Sargent.* 80, 1, 22-B1 (1992)

The Unusual Field of the Quasar 3C 336: Identification of Three Foreground Mg II Absorbing Galaxies. *Charles C. Steidel & Mark Dickinson.* 394, 81, 129-A13 (1992)

STEIGMAN, GARY. Production of Li, Be, and B in the Early Galaxy. *Gary Steigman & Terry P. Walker.* 385, L13, 17-B11 (1992)

Galactic Evolution of D and ^{3}He. *Gary Steigman & Monica Tosi.* 401, 150, 222-G8 (1992)

STEIN, JOHN. MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

STEIN, ROBERT F. Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

Non-LTE Radiating Acoustic Shocks and Ca II K2V Bright Points. *Mats Carlsson & Robert F. Stein.* 397, L59, 173-G11 (1992)

STEIN, W. A. 12 and 20 Micron Imaging of the Starburst Galaxy NGC 253. *R. K. Piña, B. Jones, R. C. Puetter, & W. A. Stein.* 401, L75, 233-A5 (1992)

STEINACKER, JÜRGEN. Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. I. Interaction with Parallel Transverse Cold Plasma Waves. *Jürgen Steinacker & James A. Miller.* 393, 764, 125-C10 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. II. Implications of Thermal Effects in a Solar Flare Plasma. *James A. Miller & Jürgen Steinacker.* 399, 284, 198-F12 (1992)

STEINHARDT, PAUL J. New Constraints and Improvements on Oscillating Physics. *Robert G. Crittenden & Paul J. Steinhardt.* 395, 360, 146-F9 (1992)

STEMWEDEL, SALLY. The Unusual Cometary Star-forming Region G110–13. *Sten Odenwald, Jacqueline Fischer, Felix J. Lockman, & Sally Stemwedel.* 397, 174, 170-B9 (1992)

STENCEL, R. E. On the Interaction between Dust and Gas in Late-Type Stellar Atmospheres and Winds. *K. B. MacGregor & R. E. Stencel.* 397, 644, 179-A13 (1992)

STEPHENSON, BRUCE. MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

STEPHENSON, C. B. The Case Low-Dispersion Northern Sky Survey. XIII. A Region in Central Bootes and Corona Borealis. *C. B. Stephenson, Peter Pesch, & D. Jack MacConnell.* 82, 471, 55-D3 (1992)

STEPINSKI, T. F. Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

STERLING, A. C. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

STERN, R. A. Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

Ginga Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)

STERN, ROBERT A. First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

STERNER, EMILY. On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)

STEVENS, IAN R. Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

STEWART, A. I. F. See PRYOR, W. R., et al. The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations.

STEWART, G. C. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

STEWART, R. T. G308.8–0.1: An Unusual Supernova Remnant Containing a Short-Period Pulsar, PSR J1341–6220. *J. L. Caswell, M. J. Kesteven, R. T. Stewart, D. K. Milne, & R. F. Haynes.* 399, L151, 208-D1 (1992)

STIAVELLI, M. Elliptical Galaxies with Dark Matter. I. Self-consistent Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 384, 423, 7-D9 (1992)

Elliptical Galaxies with Dark Matter. II. Optimal Luminous–Dark Matter Decomposition for a Sample of Bright Objects. *R. P. Saglia, G. Bertin, & M. Stiavelli.* 384, 433, 7-E7 (1992)

STINE, PETER C. Radio and Infrared Emission from Markarian Starburst Galaxies. *Peter C. Stine.* 81, 49, 35-F9 (1992)

STINEBRING, DANIEL R. Long-Term Pulsar Flux Monitoring and Refractive Interstellar Scintillation. *Victoria M. Kaspi & Daniel R. Stinebring.* 392, 530, 108-G8 (1992)

STIRPE, G. M. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

STOBER, ALFRED K. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

STOCKE, J. T. The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

STOCKE, JOHN T. Distant Cooling Flows. *Megan Donahue, John T. Stocke, & Isabella M. Gioia.* 385, 49, 12-E13 (1992)

The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

The Radio Properties of the Broad-Absorption-Line QSOs. *John T. Stocke, Simon L. Morris, Ray J. Weymann, & Craig B. Foltz.* 396, 487, 163-E5 (1992)

Discovery of Neutral Hydrogen 21 Centimeter Absorption at Redshift 0.25 toward PKS 1413+135. *C. L. Carilli, Eric S. Perlman, & John T. Stocke.* 400, L13, 214-C1 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

STOCKMAN, H. S. Discovery of a Sub-Megagauss Magnetic White Dwarf through Spectropolarimetry. *Gary D. Schmidt, H. S. Stockman, & Paul S. Smith.* 398, L57, 188-A7 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

STOCKTON, A. Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

STOEGER, W. R., S.J. Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

STOLARIK, JOHN D. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

STOLOVY, S. The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

STONE, E. C. The Isotopic Composition of Cosmic-Ray B, C, N, and O: Evidence for an Overabundance of ^{18}O. *P. S. Gibner, R. A. Mewaldt, S. M. Schindler, E. C. Stone, & W. R. Webber.* 391, L89, 99-G5 (1992)

STONE, JAMES M. A Test Suite for Magnetohydrodynamical Simulations. *James M. Stone, John F. Hawley, Charles R. Evans, & Michael L. Norman.* 388, 415, 55-E1 (1992)

The Magnetic Collimation of Bipolar Outflows. I. Adiabatic Simulations. *James M. Stone & Michael L. Norman.* 389, 297, 63-F1 (1992)

The Three-dimensional Interaction of a Supernova Remnant with an Interstellar Cloud. *James M. Stone & Michael L. Norman.* 390, L17, 78-C11 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. I. The Hydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 753, 33-G3 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. II. The Magnetohydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 791, 34-C5 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. III. The Radiation Hydrodynamic Algorithms and Tests. *James M. Stone, Dimitri Mihalas, & Michael L. Norman.* 80, 819, 34-E11 (1992)

Spatial Stability of the Magnetized Slab Jet. *Philip E. Hardee, Michael A. Cooper, Michael L. Norman, & James M. Stone.* 399, 478, 203-G11 (1992)

STONE, R. G. Detection of Fundamental and Harmonic Type III Radio Emission and the Associated Langmuir Waves at the Source Region. *M. J. Reiner, R. G. Stone, & J. Fainberg.* 394, 340, 132-B12 (1992)

STORCHI-BERGMANN, T. Optical Spectroscopy and Narrow-Band Images of the Variable Seyfert 1 Galaxy NGC 3783. *Claudia Winge, M. G. Pastoriza, T. Storchi-Bergmann, & S. Lípari.* 393, 98, 115-C11 (1992)

STORCHI-BERGMANN, THAISA. Infrared Emission in Seyfert 2 Galaxies: Reprocessed Radiation from a Dusty Torus? *Thaisa Storchi-Bergmann, John S. Mulchaey, & Andrew S. Wilson.* 395, L73, 153-F12 (1992)

The Ionization Cone, Obscured Nucleus, and Gaseous Outflow in NGC 3281: A Prototypical Seyfert 2 Galaxy? *Thaisa Storchi-Bergmann, Andrew S. Wilson, & Jack A. Baldwin.* 396, 45, 155-F1 (1992)

STORM, JESPER. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)

STOTHERS, RICHARD B. Stellar Evolution in Blue Populous Clusters of the Small Magellanic Cloud and the Problems of Envelope Semiconvection and Convective Core Overshooting. *Richard B. Stothers & Chao-wen Chin.* 390, 136, 75-F6 (1992)

Criterion for Convection in an Inhomogeneous Star. *Richard B. Stothers & Chao-wen Chin.* 390, L33, 78-E9 (1992)

Upper Limit to the Mass of Pulsationally Stable Stars with Uniform Chemical Composition. *Richard B. Stothers.* 392, 706, 111-A7 (1992)

STRAFELLA, F. Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

STRANIERO, OSCAR. The Evolution through H and He Burning of Galactic Cluster Stars. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 78, 517, 9-G11 (1992)

STRASSMEIER, KLAUS G. Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)

STRAUSS, MICHAEL A. A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

Large-Scale Morphological Segregation in the Center for Astrophysics Redshift Survey. *Basílio X. Santiago & Michael A. Strauss.* 387, 9, 37-B7 (1992)

The Density Evolution of *IRAS* Galaxies. *Karl B. Fisher, Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 389, 188, 62-C11 (1992)

A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)

A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

STRAZZULLA, G. Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

STRICKMAN, M. S. See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

STROHMAYER, T. E. Light Curves of Rotating, Oscillating Neutron Stars. *T. E. Strohmayer.* 388, 138, 50-F9 (1992)

Determining the Coherence of Micropulses. *T. E. Strohmayer, J. M. Cordes, & H. M. Van Horn.* 389, 685, 69-G12 (1992)

STROHMAYER, TOD E. Inertial Mode Oscillations of Jupiter. *Umin Lee, Tod E. Strohmayer, & H. M. Van Horn.* 397, 674, 179-D10 (1992)

STROM, KAREN M. A Study of the Stellar Population in the Chamaeleon Dark Clouds. *Lisa S. Gauvin & Karen M. Strom.* 385, 217, 14-F1 (1992)

STROM, STEPHEN E. Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)

STRONG, K. T. Resonance Scattering of Fe XVII: A Density Diagnostic. *J. T. Schmelz, J. L. R. Saba, & K. T. Strong.* 398, L115, 194-F6 (1992)

STRYKER, L. L. See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

STUART, B. V. Mass Transfer and Loss in Interacting Disk Galaxies. *J. F. Wallin & B. V. Stuart.* 399, 29, 195-D10 (1992)

STUCHLIK, Z. Accretion Disk Self-Eclipse: X-Ray Light Curve and Emission Line. *G. Bao & Z. Stuchlik.* 400, 163, 211-A1 (1992)

STURROCK, P. A. Three-dimensional Force-free Magnetic Fields and Flare Energy Buildup. *J. A. Klimchuk & P. A. Sturrock.* 385, 344, 16-B6 (1992)

Search for Evidence of a Clock Related to the Solar 154 Day Complex of Periodicities. *P. A. Sturrock & T. Bai.* 397, 337, 172-A13 (1992)

STURROCK, PETER A. Cylindrically Symmetric Force-free Magnetic Fields. *Lisa J. Porter, James A. Klimchuk, & Peter A. Sturrock.* 385, 738, 22-C6 (1992)

STUTZKI, J. Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

SUBBARAO, MARK U. Statistics of Pencil Beams in Voronoi Foams. *Mark U. SubbaRao & Alexander S. Szalay.* 391, 483, 93-G12 (1992)

SUDAN, R. N. Quasi-static Evolution of Coronal Magnetic Fields. *D. W. Longcope & R. N. Sudan.* 384, 305, 4-F12 (1992)

SUENRAM, R. D. Improved Laboratory Rest Frequency Measurements and Pressure Shift and Broadening Parameters for the $J = 2 \leftarrow 1$ and $J = 3 \leftarrow 2$ Rotational Transitions of CO. *S. P. Belov, M. Yu. Tretyakov, & R. D. Suenram.* 393, 848, 126-D9 (1992)

Microwave Spectra and Electric Dipole Moments for Low-J Levels of Interstellar Radicals: SO, C_2S, C_3S, c-HC_3, CH_2CC, and c-C_3H_2. *F. J. Lovas, R. D. Suenram, T. Ogata, & S. Yamamoto.* 399, 325, 199-D7 (1992)

SUESS, S. T. A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

SUGINOHARA, TATSUSHI. Large-Scale Structure in Isocurvature Baryon Models. *Tatsushi Suginohara & Yasushi Suto.* 387, 431, 44-B1 (1992)

Properties of Galactic Halos in Spatially Flat Universes Dominated by Cold Dark Matter: Effects of Nonvanishing Cosmological Constant. *Tatsushi Suginohara & Yasushi Suto.* 396, 395, 162-C11 (1992)

SUGIYAMA, NAOSHI. Constraints on Cosmological Models with the Decaying Cosmological Constant from Cosmic Background Radiation Anisotropies. *Naoshi Sugiyama & Katsuhiko Sato.* 387, 439, 44-B10 (1992)

Surviving Cosmological Models after the Discovery of Large-Angle Anisotropies of the Cosmic Microwave Background. *Naoteru Gouda & Naoshi Sugiyama.* 395, L59, 153-E7 (1992)

SUKHANOV, K. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line.

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

SULENTIC, J. W. Twin Peaks: IC 4329A and Arakelian 120. *P. Marziani, M. Calvani, & J. W. Sulentic.* 393, 658, 124-A5 (1992)

SULKANEN, M. E. Intrinsically Asymmetric Astrophysical Jets. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 390, 46, 74-F1 (1992)

SULKANEN, MARTIN E. Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

SUMNER, T. J. See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

SUN, W.-H. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active

Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

SUNTZEFF, NICHOLAS B. The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)

Sodium, Aluminum, and Oxygen Abundance Variations in Giants in the Globular Cluster M4. *Jeremy J. Drake, Verne V. Smith, & Nicholas B. Suntzeff.* 395, L95, 154-A10 (1992)

SUNYAEV, R. X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line. *R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, S. Grebenev, R. Kremnev, K. Sukhanov, A. Goldwurm, J. Ballet, B. Cordier, J. Paul, M. Denis, G. Vedrenne, M. Niel, & E. Jourdain.* 389, L75, 73-E1 (1992)

See GOLDWURM, A., et al. SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line.

See BARRET, D., et al. SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524–62).

See BARRET, D., et al. Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731–260.

See JOURDAIN, E., et al. A New Hard X-Ray Source 15′ Away from 3C 273?

See BASSANI, L., et al. SIGMA Observation of Two Quasars: 3C 273 and 0241+62.

SUNYAEV, R. A. Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)

SURDEJ, J. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

SUTHERLAND, W. J. Spatial Correlations in a Redshift Survey of APM Galaxy Clusters. *G. B. Dalton, G. Efstathiou, S. J. Maddox, & W. J. Sutherland.* 390, L1, 78-A8 (1992)

SUTO, YASUSHI. Large-Scale Structure in Isocurvature Baryon Models. *Tatsushi Suginohara & Yasushi Suto.* 387, 431, 44-B1 (1992)

Statistics of the Cosmic Mach Number from Numerical Simulations of a Cold Dark Matter Universe. *Yasushi Suto, Renyue Cen, & Jeremiah P. Ostriker.* 395, 1, 140-B1 (1992)

Nonlinear Gravitational Evolution of Phases and Amplitudes in One-dimensional Cosmological Density Fields. *Jiro Soda & Yasushi Suto.* 396, 379, 162-B1 (1992)

Properties of Galactic Halos in Spatially Flat Universes Dominated by Cold Dark Matter: Effects of Nonvanishing Cosmological Constant. *Tatsushi Suginohara & Yasushi Suto.* 396, 395, 162-C11 (1992)

SUTTON, E. C. Submillimeter Line Observations of the Proto–Planetary Nebula CRL 2688. *P. A. Jaminet, W. C. Danchi, Göran Sandell, & E. C. Sutton.* 400, 535, 217-A7 (1992)

SUZUKI, HIROKO. A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).

SVENSSON, ROLAND. Hot Pair-dominated Accretion Disks. *Gunnlaugur Björnsson & Roland Svensson.* 394, 500, 135-E9 (1992)

SWADE, DARYL A. A Source Model for the L134N Molecular Cloud. *Daryl A. Swade & F. Peter Schloerb.* 392, 543, 109-A9 (1992)

SWANK, J. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

SWENSON, FRITZ J. Interior Opacities and the Standard Solar Model. *John Faulkner & Fritz J. Swenson.* 386, L55, 36-D1 (1992)

Lithium Dilution through Main-Sequence Mass Loss. *Fritz J. Swenson & John Faulkner.* 395, 654, 151-D3 (1992)

SZALAY, A. S. Cluster Correlations from *N*-Point Correlation Amplitudes. *I. Szapudi, A. S. Szalay, & P. Boschán.* 390, 350, 79-E7 (1992)

SZALAY, ALEXANDER. Higher Order Correlations of *IRAS* Galaxies. *Avery Meiksin, Istvan Szapudi, & Alexander Szalay.* 394, 87, 129-B6 (1992)

SZALAY, ALEXANDER S. Statistics of Pencil Beams in Voronoi Foams. *Mark U. SubbaRao & Alexander S. Szalay.* 391, 483, 93-G12 (1992)

A General Analytical Solution to the Problem of Malmquist Bias Due to Lognormal Distance Errors. *Stephen D. Landy & Alexander S. Szalay.* 391, 494, 94-A11 (1992)

Large-Scale Radial Velocity Correlations as a Test of Gaussian Initial Conditions. *Stephen D. Landy & Alexander S. Szalay.* 394, 25, 128-D1 (1992)

SZAPIEL, S. Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

SZAPUDI, I. Cluster Correlations from *N*-Point Correlation Amplitudes. *I. Szapudi, A. S. Szalay, & P. Boschán.* 390, 350, 79-E7 (1992)

SZAPUDI, ISTVAN. Higher Order Correlations of *IRAS* Galaxies. *Avery Meiksin, Istvan Szapudi, & Alexander Szalay.* 394, 87, 129-B6 (1992)

SZKODY, PAULA. Spectroscopic Confirmation of High Galactic Latitude Cataclysmic Variables. *Paula Szkody & Steve B. Howell.* 78, 537, 10-C3 (1992)

TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)

SZYMKOWIAK, A. E. See WEAVER, K. A., et al. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics.

TAAM, RONALD E. Possible Observational Consequences of Primordial Binaries in Globular Clusters. *Ronald E. Taam & D. N. C. Lin.* 390, 440, 80-G6 (1992)

Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

TACCONI-GARMAN, LOWELL E. Walls and Windows in the Molecular Milky Way. *William H. Waller & Lowell E. Tacconi-Garman.* 80, 305, 26-D3 (1992)

TAFF, L. G. Catalog-to-Catalog Reductions: Results for the FK, N30, and GC Catalogs. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 392, 746, 111-E9 (1992)

TAGGER, M. Swinging Spiral Waves and Alfvén Turbulence in Accretion Disks. *M. Tagger, R. Pellat, & F. V. Coroniti.* 393, 708, 124-F1 (1992)

TAGLIAFERRI, G. X-Ray Luminosity and Spectral Variability of Hard X-Ray–selected Active Galactic Nuclei. *P. Grandi, G. Tagliaferri, P. Giommi, P. Barr, & G. G. C. Palumbo.* 82, 93, 50-C9 (1992)

TAJIMA, T. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

Magnetic Interchange Instability of Accretion Disks. *M. Kaisig, T. Tajima, & R. V. E. Lovelace.* 386, 83, 25-B7 (1992)

On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

TAKAHASHI, MASAAKI. Accretion in a Kerr Black Hole Magnetosphere: Energy and Angular Momentum Transport between the Magnetic Field and the Matter. *Kouichi Hirotani, Masaaki Takahashi, Shin-ya Nitta, & Akira Tomimatsu.* 386, 455, 31-A11 (1992)

TAKAHASHI, T. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

TAKALO, L. O. Intermediate-Resolution Spectropolarimetry of 3C 273. *J. A. de Diego, E. Pérez, M. R. Kidger, & L. O. Takalo.* 396, L19, 160-D10 (1992)

TAKAMI, H. Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

TAKANO, SHURO. A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).

See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

TAKESHIMA, T. *Ginga* Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

TAMMANN, G. A. The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

TAMURA, KEISUKE. The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

TAMURA, M. See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

Circumprotostellar Environments. I. Molecular Outflows from Protostar Candidates in Taurus. *G. H. Moriarty-Schieven, P. G. Wannier, M. Tamura, & Jocelyn Keene.* 400, 260, 212-B10 (1992)

TAMURA, MOTOHIDE. The Molecular Hydrogen Emission around L1551 IRS 5: Shock- Heated Molecular Gas at the Base of the Molecular Outflow. *Takuya Yamashita & Motohide Tamura.* 387, L93, 48-E5 (1992)

Infrared Morphology of Mass Outflow from GL 2591. *Motohide Tamura & Takuya Yamashita.* 391, 710, 96-G4 (1992)

TAMURA, T. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

TAN, J. Simultaneous X-Ray and Radio Observations of GX 5–1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

TANAKA, M. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

TANAKA, YASUO. The X-Ray Spectrum of Abell 665. *John P. Hughes & Yasuo Tanaka.* 398, 62, 182-G1 (1992)

TANANBAUM, HARVEY. PKS 0438–436: A High-Redshift Quasar with Strong X-Ray Absorption. *Belinda J. Wilkes, Martin Elvis, Fabrizio Fiore, Jonathan C. McDowell, Harvey Tananbaum, & Andrew Lawrence.* 393, L1, 120-A9 (1992)

TANDON, S. N. Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

TANIGUCHI, YOSHIAKI. Origin of Far-Infrared Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri & Yoshiaki Taniguchi.* 386, 68, 25-A1 (1992)

TAPIA, SANTIAGO. See ROBERT, CARMELLE, et al. Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris.

TARBELL, T. D. Observations of High-Frequency and High-Wavenumber Solar Oscillations. *D. N. Fernandes, P. H. Scherrer, T. D. Tarbell, & A. M. Title.* 392, 736, 111-D1 (1992)

Properties of the Smallest Solar Magnetic Elements. I. Facular Contrast near Sun Center. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 396, 351, 159-D6 (1992)

TARBELL, THEODORE D. On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

TARDIFF, A. Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

TASHIRO, M. X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

TASSOUL, JEAN-LOUIS. On the Interior Structure of Contact Binaries and the Light-Curve Paradox. *Jean-Louis Tassoul.* 389, 375, 64-E9 (1992)

A Comparative Study of Synchronization and Circularization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 395, 259, 143-D1 (1992)

On the Efficiency of Ekman Pumping for Synchronization in Close Binaries. *Monique Tassoul & Jean-Louis Tassoul.* 395, 604, 150-E5 (1992)

TASSOUL, M. Adiabatic Properties of Pulsating DA White Dwarfs. IV. An Extensive Survey of the Period Structure of Evolutionary Models. *P. Brassard, G. Fontaine, F. Wesemael, & M. Tassoul.* 81, 747, 45-D3 (1992)

TASSOUL, MONIQUE. A Comparative Study of Synchronization and Circularization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 395, 259, 143-D1 (1992)

On the Efficiency of Ekman Pumping for Synchronization in Close Binaries. *Monique Tassoul & Jean-Louis Tassoul.* 395, 604, 150-E5 (1992)

TAWARA, YUZURU. X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

TAYLOR, A. R. Observations of Symbiotic Stars at Millimeter and Submillimeter Wavelengths. *E. R. Seaquist & A. R. Taylor.* 387, 624, 46-D5 (1992)

VLBI Observations of the X-Ray Binary LS I +61°303. *A. R. Taylor, H. T. Kenny, R. E. Spencer, & A. Tzioumis.* 395, 268, 143-D11 (1992)

TAYLOR, KEITH. The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

TAYLOR, M. The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

Polarization Cancellation in the Two-Component Winds from Wolf-Rayet Stars. *M. Taylor & J. P. Cassinelli.* 401, 311, 224-G5 (1992)

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

TAYLOR, MARYJANE. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

TEBAY, JACK C. See STECHER, THEODORE P., et al. The Ultraviolet Imaging Telescope: Design and Performance.

TEEGARDEN, BONNARD J. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

TEGLER, STEPHEN C. NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin 1989c_1. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)

Comet Outbursts and Polymers of HCN. *Terrence W. Rettig, Stephen C. Tegler, Daniel J. Pasto, & Michael J. Mumma.* 398, 293, 185-D5 (1992)

TELESCO, C. M. High-Resolution 12.4 Micron Images of the Starburst Region in M82. *C. M. Telesco & D. Y. Gezari.* 395, 461, 148-B11 (1992)

TE LINTEL HEKKERT, P. Discovery of Bipolar OH Maser Emission from the High-Latitude Supergiant Star HD 101584. *P. te Lintel Hekkert, J. M. Chapman, & A. A. Zijlstra.* 390, L23, 78-D9 (1992)

TEMERIN, M. The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

TENORIO, L. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

TERADA, KENTARO. Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

TERASAWA, NOBUO. Intergalactic Ionizing Flux from Active Galactic Nuclei. *Nobuo Terasawa.* 392, L15, 106-C1 (1992)

TEREBEY, S. Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)

TERLEVICH, ROBERTO. O-Star Photoionization Models of Liners with Weak [O I] λ6300 Emission. *Alexei V. Filippenko & Roberto Terlevich.* 397, L79, 181-A1 (1992)

TEUBEN, PETER J. NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

TEUKOLSKY, SAUL A. Equilibrium Stellar Systems with Spindle Singularities. *Stuart L. Shapiro & Saul A. Teukolsky.* 388, 287, 53-G10 (1992)

Spin-up of a Rapidly Rotating Star by Angular Momentum Loss: Effects of General Relativity. *Gregory B. Cook, Stuart L. Shapiro, & Saul A. Teukolsky.* 398, 203, 184-D1 (1992)

THADDEUS, P. The Rotational Spectrum of the Carbon Chain Radical HCCCO. *A. L. Cooksy, J. K. G. Watson, C. A. Gottlieb, & P. Thaddeus.* 386, L27, 29-D7 (1992)

A Complete CO Survey of the Cygnus X Region. *Helen O. Leung & P. Thaddeus.* 81, 267, 38-F3 (1992)

Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

THE, LIH-SIN. The ^{57}Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

THEUNS, T. Spherically Symmetric, Polytropic Flow. *T. Theuns & M. David.* 384, 587, 9-D9 (1992)

THIELEMANN, F. K. Strange Quark Contributions to the Nucleon and Neutrino Nucleosynthesis. *E. Kolbe, K. Langanke, S. Krewald, & F. K. Thielemann.* 401, L89, 233-C1 (1992)

THIELEMANN, FRIEDRICH-KARL. Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

THOMAS, JOHN H. Localized Sources of Propagating Acoustic Waves in the Solar Photosphere. *Timothy M. Brown, Thomas J. Bogdan, Bruce W. Lites, & John H. Thomas.* 394, L65, 139-E7 (1992)

THOMAS, ROGER J. Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

THOMPSON, CHRISTOPHER. Formation of Very Strongly Magnetized Neutron Stars: Implications for Gamma-Ray Bursts. *Robert C. Duncan & Christopher Thompson.* 392, L9, 106-B7 (1992)

THOMPSON, D. J. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

Identification and Spectroscopy of Radio Sources from the Third Bologna Survey. *D. J. Thompson, S. Djorgovski, M. Vigotti, & G. Grueff.* 81, 1, 35-B1 (1992)

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

THOMPSON, K. L. Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

THOMPSON, KEITH L. Near-Infrared Broad-Line Profiles in Low-Redshift QSOs. *Keith L. Thompson.* 395, 403, 147-C13 (1992)

THOMPSON, M. J. The Resolving Power of Current Helioseismic Inversions for the Sun's Internal Rotation. *J. Schou, J. Christensen-Dalsgaard, & M. J. Thompson.* 385, L59, 23-E1 (1992)

THOMPSON, MICHAEL J. The Effect of an Inclined Magnetic Field on Solar Oscillation Frequencies. *Philip R. Goode & Michael J. Thompson.* 395, 307, 144-A1 (1992)

THOMPSON, R. J., JR. Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

THOMPSON, W. T. A Rotating Tomographic Imager for Solar Extreme-Ultraviolet/Soft X-Ray Emission. *Joseph M. Davila & W. T. Thompson.* 389, L91, 73-F8 (1992)

THOMPSON, WILLIAM T. Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

THORBURN, J. A. Two New Lithium-deficient Population II Dwarfs. *J. A. Thorburn.* 399, L83, 201-B13 (1992)

THORSETT, S. E. Rocks around the Clock: Limits on Pulsar Planetary Systems. *S. E. Thorsett & J. A. Phillips.* 387, L69, 48-C6 (1992)

Pulsar PSR 1744−24A: Timing, Eclipses, and the Evolution of Neutron Star Binaries. *D. J. Nice & S. E. Thorsett.* 397, 249, 171-A12 (1992)

THORSTENSEN, JOHN R. Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

THRONSON, HARLEY A., JR. Dust and the Transfer of Stellar Radiation within Galaxies. *Adolf N. Witt, Harley A. Thronson, Jr., & John M. Capuano, Jr.* 393, 611, 123-D7 (1992)

THUAN, TRINH X. Northern Dwarf and Low Surface Brightness Galaxies. II. The Green Bank Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Jeffrey G. Mangum, & John Miller.* 81, 5, 35-B13 (1992)

On the Use of Far-Infrared Luminosity as a Star Formation Indicator in Galaxies. *Marc Sauvage & Trinh X. Thuan.* 396, L69, 167-A9 (1992)

UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

THUM, C. Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

TIELENS, A. G. G. M. Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)

Mass Loss from OH/IR Stars: Models for the Infrared Emission of Circumstellar Dust Shells. *K. Justtanont & A. G. G. M. Tielens.* 389, 400, 64-G10 (1992)

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)

Infrared Spectroscopy of Dense Clouds in the C−H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

On the Molecular Complexity of the Hot Cores in Orion A: Grain Surface Chemistry as "The Last Refuge of the Scoundrel." *S. B. Charnley, A. G. G. M. Tielens, & T. J. Millar.* 399, L71, 201-A8 (1992)

Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)

Mid-Infrared Rotational Line Emission from Interstellar Molecular Hydrogen. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 399, 563, 204-G7 (1992)

TIELENS, ALEXANDER G. G. M. Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

TIFFT, W. G. Properties of the Redshift. IV. Reference Data. *W. G. Tifft.* 79, 183, 16-D13 (1992)

TILLETT, JASON C. CNO Destruction by Spallation and Type I X-Ray Bursts. *Jason C. Tillett & James MacDonald.* 388, 555, 57-B7 (1992)

TIMMES, F. X. On the Thermal Conductivity due to Collisions between Relativistic Degenerate Electrons. *F. X. Timmes.* 390, L107, 85-D9 (1992)

The Conductive Propagation of Nuclear Flames. I. Degenerate C + O and O + Ne + Mg White Dwarfs. *F. X. Timmes & S. E. Woosley.* 396, 649, 165-D9 (1992)

TIMOTHY, J. GETHYN. Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

TINNEY, C. G. The Faintest Stars. *C. G. Tinney, J. R. Mould, & I. N. Reid.* 396, 173, 157-C6 (1992)

TITLE, A. M. Observations of High-Frequency and High-Wavenumber Solar Oscillations. *D. N. Fernandes, P. H. Scherrer, T. D. Tarbell, & A. M. Title.* 392, 736, 111-D1 (1992)

Properties of the Smallest Solar Magnetic Elements. I. Facular Contrast near Sun Center. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 396, 351, 159-D6 (1992)

TITLE, ALAN M. On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

TOHLINE, JOEL E. Tidal Disruption of a Star by a Massive Disk (The Axisymmetric Roche Problem). *John W. Woodward, Srivaths Sankaran, & Joel E. Tohline.* 394, 248, 131-B1 (1992)

TOKUNAGA, A. T. The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)

TOKUNAGA, ALAN T. Measurement of CO Overtone Line Profiles in SVS 13. *John S. Carr & Alan T. Tokunaga.* 393, L67, 127-D7 (1992)

Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

TOMANEY, AUSTIN B. The Spectroscopic and Photometric Evolution of Novae in the Bulge of M31. *Austin B. Tomaney & Allen W. Shafter.* 81, 683, 45-C11 (1992)

TOMIMATSU, AKIRA. Accretion in a Kerr Black Hole Magnetosphere: Energy and Angular Momentum Transport between the Magnetic Field and the Matter. *Kouichi Hirotani, Masaaki Takahashi, Shin-ya Nitta, & Akira Tomimatsu.* 386, 455, 31-A11 (1992)

TOMISAKA, KOHJI. Two-Component Gravitating Systems and Red Giant–like Structure. *Masayuki Y. Fujimoto & Kohji Tomisaka.* 385, 445, 18-F10 (1992)

TOMITA, KENJI. On Distances and the Hubble Parameter Determination in Gravitational Lenses. *Kazuya Watanabe, Misao Sasaki, & Kenji Tomita.* 394, 38, 128-E1 (1992)

Density Perturbations Driven by the Irregular Spatial Curvature in Inhomogeneous Cosmological Models. *Kenji Tomita.* 394, 401, 134-C9 (1992)

TOMKIN, JOCELYN. Secondaries of Eclipsing Binaries. VII. The Spectroscopic Triple and Visual Double V505 Sagittarii. *Jocelyn Tomkin.* 387, 631, 46-E1 (1992)

TONRY, JOHN. A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

TONWAR, S. C. Evidence for Time Variability of PeV Energy Flux from Cygnus X-3: Ooty Observations during the Period 1984–1987. *S. C. Tonwar, S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, & R. Srivatsan.* 390, 273, 77-D1 (1992)

TOPKA, K. P. Properties of the Smallest Solar Magnetic Elements. I. Facular Contrast near Sun Center. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 396, 351, 159-D6 (1992)

TOPKA, KENNETH P. On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

TORMEN, GIUSEPPE. Velocity Dipoles in Cold Dark Matter Cosmologies. *Giuseppe Tormen, Francesco Lucchin, & Sabino Matarrese.* 386, 1, 24-B1 (1992)

TORNAMBÈ, AMEDEO. The Contribution of Advanced Post-Hayashi Track Evolutionary Phases to the Ultraviolet Light of Elliptical Galaxies. *Marco Castellani, Marco Limongi, & Amedeo Tornambè.* 389, 227, 62-G1 (1992)

TORRELLES, J. M. The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

VLA Imaging of a Possible Circumstellar Disk around HL Tauri. *L. F. Rodríguez, J. Cantó, J. M. Torrelles, J. F. Gómez, & P. T. P. Ho.* 393, L29, 120-E1 (1992)

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

TORRELLES, JOSÉ M. The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

TORRICELLI-CIAMPONI, GUIDETTA. Magnetohydrodynamic Models for Extragalactic Jets. I. General Method Based on Conservation Laws. *Paola Pietrini & Guidetta Torricelli-Ciamponi.* 401, 60, 221-G1 (1992)

TOSI, MONICA. Galactic Evolution of D and ^{3}He. *Gary Steigman & Monica Tosi.* 401, 150, 222-G8 (1992)

TÓTH, G. Galactic Disks, Infall, and the Global Value of Ω. *G. Tóth & J. P. Ostriker.* 389, 5, 60-B6 (1992)

TOWNES, C. H. Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

TOWNES, CHARLES H. Heating of H II Regions with Application to the Galactic Center. *Philip R. Maloney, David J. Hollenbach, & Charles H. Townes.* 401, 559, 229-E5 (1992)

TRAFTON, L. M. Occurrence of Global-Scale Emissions on Jupiter: Proposed Identification of Jovian Dimer H_2 Emission. *L. M. Trafton & J. K. G. Watson.* 385, 320, 15-G8 (1992)

TRAN, HIEN D. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

Near-Infrared Spectra and Classification Diagnostics of Seyfert Galaxies. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 196, 62-D7 (1992)

Faint Emission Lines in the Spectrum of the Orion Nebula and the Abundances of Some of the Rarer Elements. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 305, 63-F11 (1992)

Detection of Obscured Broad-Line Regions in Four Seyfert 2 Galaxies. *Hien D. Tran, Joseph S. Miller, & Laura E. Kay.* 397, 452, 176-C12 (1992)

TRAPERO, JOAQUÍN. Observation of Fine Structure in the Cold Phase of the Local Interstellar Medium Using K I Absorption. *Joaquín Trapero, John E. Beckman, Ricardo Génova, & Conal D. McKeith.* 394, 552, 136-C1 (1992)

TRATTNER, K. J. Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)

TREMBLAY, L. M. Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

TRETYAKOV, M. YU. Improved Laboratory Rest Frequency Measurements and Pressure Shift and Broadening Parameters for the $J = 2 \leftarrow 1$ and $J = 3 \leftarrow 2$ Rotational Transitions of CO. *S. P. Belov, M. Yu. Tretyakov, & R. D. Suenram.* 393, 848, 126-D9 (1992)

TREUMANN, R. A. Band Splitting in Solar Type II Radio Bursts. *R. A. Treumann & J. LaBelle.* 399, L167, 208-E7 (1992)

TREVES, A. On the 440 keV Line in the Crab Nebula Pulsar. *W. Bednarek, O. Cremonesi, & A. Treves.* 390, 489, 81-D5 (1992)

See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477).

TREVESE, DARIO. A Direct Measure of the Gunn-Peterson Effect at $z = 3$: Limits on the Baryon Density of the Intergalactic Medium at High Redshifts. *Emanuele Giallongo, Stefano Cristiani, & Dario Trevese.* 398, L9, 187-B7 (1992)

The Redshift Evolution of the Lyman-Alpha Forest: Blending Effects. *Dario Trevese, Emanuele Giallongo, & Luca Camurani.* 398, 491, 190-C1 (1992)

TREYER, MARIE-AGNES. The Faint Galaxy Contribution to the Diffuse Extragalactic Background Light. *Shaun Cole, Marie-Agnes Treyer, & Joseph Silk.* 385, 9, 12-B10 (1992)

TRINCHERO, G. C. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

TRINCHIERI, G. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

An X-Ray Catalog and Atlas of Galaxies. *G. Fabbiano, D.-W. Kim, & G. Trinchieri.* 80, 531, 31-A11 (1992)

The X-Ray Spectra of Galaxies. I. Spectral Fits of Individual Galaxies and X-Ray Colors. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 80, 645, 32-D7 (1992)

The X-Ray Spectra of Galaxies. II. Average Spectral Properties and Emission Mechanisms. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 393, 134, 115-F12 (1992)

TRUAX, RYLAND. Physical Properties of Be Star Envelopes from Balmer and Fe II Emission Lines. *Arne Slettebak, George W. Collins II, & Ryland Truax.* 81, 335, 39-D13 (1992)

TRUONG-BACH. A Survey for Extragalactic HCN and HCO^+. *Nguyen-Q-Rieu, James M. Jackson, Christian Henkel, Truong-Bach, & Rainer Mauersberger.* 399, 521, 204-D1 (1992)

TRURAN, J. W. The Collapse of Our Galaxy and the Formation of the Galactic Disk. *A. Burkert, J. W. Truran, & G. Hensler.* 391, 651, 96-B4 (1992)

TRURAN, JAMES W. Type I Supernovae and Accretion-induced Collapses from Cataclysmic Variables? *Mario Livio & James W. Truran.* 389, 695, 70-A10 (1992)

A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)

On the Role of Radioactive Decays in Powering Gamma Rays and X-Rays from Novae. *Mario Livio, Apostolos Mastichiadis, Hakki Ögelman, & James W. Truran.* 394, 217, 130-F5 (1992)

See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

TRUSSONI, E. Radiative Acceleration by Synchrotron Sources. *G. Ghisellini, G. Bodo, & E. Trussoni.* 401, 87, 222-B5 (1992)

TSUNEMI, HIROSHI. The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

X-Ray Spectrum and Time Variation of X1850−087 in the Globular Cluster NGC 6712. *Shunji Kitamoto, Hiroshi Tsunemi, & Diane Roussel-Dupre.* 391, 220, 88-F7 (1992)

Discovery and X-Ray Properties of GS 1124−683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)

TSUNETA, S. *Ginga* Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)

TSURU, T. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

TSURUTA, SACHIKO. X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

TSVETANOV, ZLATAN. Anisotropic Ionizing Radiation in Seyfert Galaxies. I. The Extended Narrow-Line Region in Markarian 573. *Zlatan Tsvetanov & J. R. Walsh.* 386, 485, 31-D5 (1992)

The Kinematics of the Extended Gas in the Seyfert Galaxy NGC 3516. *John S. Mulchaey, Zlatan Tsvetanov, Andrew S. Wilson, & Ismael Pérez-Fournon.* 394, 91, 129-B11 (1992)

TUCHMAN, Y. Explosion of a Supernova with a Red Giant Companion. *E. Livne, Y. Tuchman, & J. C. Wheeler.* 399, 665, 206-B11 (1992)

TUCKER, WALLACE H. Semiempirical Limits on the Thermal Conductivity of Intracluster Gas. *Laurence P. David, John P. Hughes, & Wallace H. Tucker.* 394, 452, 135-A7 (1992)

TÜG, H. A New Solar Irradiance Calibration from 3295 Å to 8500 Å Derived from Absolute Spectrophotometry of Vega. *G. W. Lockwood, H. Tüg, & N. M. White.* 390, 668, 83-E9 (1992)

TULLY, R. BRENT. Luminosity–Line Width Relations and the Extragalactic Distance Scale. I. Absolute Calibration. *Michael J. Pierce & R. Brent Tully.* 387, 47, 37-E8 (1992)

Possible Geometric Patterns in 0.1c Scale Structure. *R. Brent Tully, Roberto Scaramella, Giampaolo Vettolani, & Giovanni Zamorani.* 388, 9, 49-B10 (1992)

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution. *Edward J. Shaya, R. Brent Tully, & Michael J. Pierce.* 391, 16, 86-C5 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution: Distances, Model, and the Local Velocity Anomaly. *R. Brent Tully, Edward J. Shaya, & Michael J. Pierce.* 80, 479, 30-B1 (1992)

TUMER, O. TUMAY. Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

TUOHY, I. R. S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

TUOMINEN, ILKKA. Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

TURATTO, M. Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

TURNER, B. E. Detection of SiN in IRC +10216. *B. E. Turner.* 388, L35, 52-D1 (1992)

On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. II. Structure, Stability, and Physical Conditions from $C^{18}O$ Observations. *B. E. Turner, Lanping Xu, & L. J Rickard.* 391, 158, 88-A7 (1992)

Detection of Interstellar SO^+: A Diagnostic of Dissociative Shock Chemistry. *B. E. Turner.* 396, L107, 167-F1 (1992)

Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

TURNER, E. L. Statistical Properties of Gravitational Lenses with a Nonzero Cosmological Constant. *M. Fukugita, T. Futamase, M. Kasai, & E. L. Turner.* 393, 3, 114-B4 (1992)

A Lower Limit on the Cosmic Mean Density from the Ages of Clusters of Galaxies. *D. Richstone, A. Loeb, & E. L. Turner.* 393, 477, 121-G1 (1992)

TURNER, EDWIN L. Quasar Absorption Lines with a Nonzero Cosmological Constant. *Edwin L. Turner & Satoru Ikeuchi.* 389, 478, 67-D7 (1992)

TURNER, JEAN L. ^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)

TURNER, M. J. L. See WILLIAMS, O. R., et al. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*.

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

TURNER, PAULA C. Near-Infrared Images of the Nuclear Region of NGC 5128. *Paula C. Turner, William J. Forrest, Judith L. Pipher, & Mark A. Shure.* 393, 648, 123-G7 (1992)

TURNER, T. J. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

TURNER, T. JANE. Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)

TURNSHEK, D. A. Lyman-Alpha Emission from the Damped Lyman-Alpha System toward H0836+113. *A. M. Wolfe, D. A. Turnshek, K. M. Lanzetta, & J. B. Oke.* 385, 151, 13-G7 (1992)

TURNSHEK, DAVID A. See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226−1024.

TUROK, NEIL. The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

TUROLLA, R. Importance of Synchrotron Cooling in Self-consistent Spherical Accretion Models. *A. Mason & R. Turolla.* 400, 170, 211-A10 (1992)

TUTUKOV, ALEXANDER V. The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)

Rare Thermonuclear Explosions in Short-Period Cataclysmic Variables, with Possible Application to the Nova-like Red Variable in the Galaxy M31. *Icko Iben, Jr., & Alexander V. Tutukov.* 389, 369, 64-E1 (1992)

TWEEDY, R. W. The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

TWEEDY, RICHARD W. The Identification of Highly Ionized Metal Species in the Hot DA1 White Dwarf G191-B2B with the *Hubble Space Telescope* Faint Object Spectrograph. *Edward M. Sion, Ralph C. Bohlin, Richard W. Tweedy, & Gerard P. Vauclair.* 391, L29, 92-B11 (1992)

TWIGG, L. Preliminary Results of a Balloon Flight of the Solar Disk Sextant. *E. Maier, L. Twigg, & S. Sofia.* 389, 447, 65-D11 (1992)

TYTLER, DAVID. Systematic QSO Emission-Line Velocity Shifts and New Unbiased Redshifts. *David Tytler & Xiao-Ming Fan.* 79, 1, 12-B1 (1992)

TZIOUMIS, A. VLBI Observations of the X-Ray Binary LS I +61°303. *A. R. Taylor, H. T. Kenny, R. E. Spencer, & A. Tzioumis.* 395, 268, 143-D11 (1992)

UBERTINI, P. Variability of the Galactic Center in the Hard X-Ray Range. *A. Bazzano, C. La Padula, P. Ubertini, & R. K. Sood.* 385, L17, 17-C1 (1992)

Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)

See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

Hard X-Ray Observation of Scorpius X-1: Erratum. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 396, 378, 159-G3 (1992) (Orig. paper in 386, 710, 34-B4 (1992))

UCHIDA, KEVEN I. A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1−0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

UCHIDA, Y. Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

Ginga Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)

UDALSKI, A. Possible First Detection of Ultraviolet Pulses from an Intermediate Polar: V603 Aquila. *A. Schwarzenberg-Czerny, A. Udalski, & R. Monier.* 401, L19, 227-C7 (1992)

UKITA, N. High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

ULMER, M. P. Clusters in Collision? *M. P. Ulmer, G. D. Wirth, & M. P. Kowalski.* 397, 430, 176-A9 (1992)

See KURFESS, J. D., et al. Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A.

ULRICHS, J. Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

UMEMOTO, T. The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

UMEMOTO, TOMOFUMI. Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)

Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)

UNDERHILL, ANNE B. The Spectrum of the Peculiar WC7+OB Star HD 192641. *Anne B. Underhill.* 398, 636, 192-A10 (1992)

UNNIKRISHNAN, K. Excitation Rate Coefficients for Transitions among the $n = 1$, 2, and 3 Levels of He^+. *K. M. Aggarwal, J. Callaway, A. E. Kingston, & K. Unnikrishnan.* 80, 473, 28-G13 (1992)

UNRUH, WILLIAM. Cosmological Density Perturbations with Modified Gravity. *Redouane Fakir, Salman Habib, & William Unruh.* 394, 396, 134-C1 (1992)

UNWIN, S. C. The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

UNWIN, STEPHEN C. The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

Kinematics of the Parsec-Scale Relativistic Jet in 3C 345. *Stephen C. Unwin & Ann E. Wehrle.* 398, 74, 183-A1 (1992)

URRY, C. M. Luminosity Functions, Relativistic Beaming, and Unified Theories of High-Luminosity Radio Sources. *P. Padovani & C. M. Urry.* 387, 449, 44-C9 (1992)

See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

USOV, V. V. Stellar Wind Collision and X-Ray Generation in Massive Binaries. *V. V. Usov.* 389, 635, 69-C10 (1992)

X-Ray Emission from Single Magnetic Early-Type Stars. *V. V. Usov & D. B. Melrose.* 395, 575, 150-B1 (1992)

VACANTI, G. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.

VACCA, WILLIAM D. Optical Spectrophotometry of Wolf-Rayet Galaxies. *William D. Vacca & Peter S. Conti.* 401, 543, 229-D1 (1992)

VAGNETTI, FAUSTO. The Evolution of the QSO Luminosity Function Up to $z = 4$: The Role of K-Correction Uncertainties. *Emanuele Giallongo & Fausto Vagnetti.* 396, 411, 162-E5 (1992)

VAHIA, M. N. X-Ray Continuum and Line Emission of the Seyfert Galaxy MCG−5-23-16. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 385, 132, 13-E10 (1992)

VAIANA, G. S. X-Ray Activity as Statistical Age Indicator: The Disk G–K Giants. *G. Micela, A. Maggio, & G. S. Vaiana.* 388, 171, 51-B5 (1992)

Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

VAINSHTEIN, SAMUEL I. Nonlinear Restrictions on Dynamo Action. *Samuel I. Vainshtein & Fausto Cattaneo.* 393, 165, 116-B5 (1992)

VALDARNINI, RICCARDO. Clustering of Galaxy Clusters. I. Is the Spatial Cluster-Cluster Correlation Function Enhanced Significantly by Contaminations? *Yi-Peng Jing, Manolis Plionis, & Riccardo Valdarnini.* 389, 499, 67-F3 (1992)

Multifractal Properties of Cosmological *N*-Body Simulations. *Riccardo Valdarnini, Stefano Borgani, & Antonello Provenzale.* 394, 422, 134-E7 (1992)

Clustering of Galaxy Clusters. II. Rare Events in the Cluster Distribution. *Manolis Plionis, Riccardo Valdarnini, & Yi-Peng Jing.* 398, 12, 182-C1 (1992)

VALENTI, JEFF A. Limits on the Magnetic Flux of Pre–Main-Sequence Stars. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 390, 622, 83-A9 (1992)

VALK, JACOBUS H. Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

VALLANIA, P. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

VALLÉE, J. P. Riddle and Puzzle of the Optical Region S122 = 2306+1439. *J. P. Vallée & A. G. de Bruyn.* 393, 674, 124-B10 (1992)

VAL'TTS, I. E. The Detection of a New, Nonmasing Transition of Methanol at 28.3 GHz. *V. I. Slysh, S. V. Kalenskii, & I. E. Val'tts.* 397, L43, 173-F3 (1992)

VAN AMERONGEN, S. See SAMBRUNA, R. M., et al. X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477).

VAN BREUGEL, W. Spectroscopy of Emission-Line Nebulae in Powerful Radio Galaxies: Interpretation. *S. A. Baum, T. M. Heckman, & W. van Breugel.* 389, 208, 62-E7 (1992)

VAN BREUGEL, W. J. M. *Hubble Space Telescope* Imaging of Distant Galaxies: 4C 41.17 at $z = 3.8$. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

VAN BUREN, DAVE. Bow Shock Models for the Velocity Structure of Ultracompact H II Regions. *Dave Van Buren & Mordecai-Mark Mac Low.* 394, 534, 136-A7 (1992)

VANCURA, O. See KRISS, G. A., et al. Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151.

VANCURA, OLAF. A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope. *Olaf Vancura, William P. Blair, Knox S. Long, Arthur F. Davidsen, Charles W. Bowers, W. Van Dyke Dixon, Samuel T. Durrance, Paul D. Feldman, Henry C. Ferguson, Richard C. Henry, Randy A. Kimble, Gerard A. Kriss, Jeffrey W. Kruk, & H. Warren Moos.* 401, 220, 223-G1 (1992)

VAN DALEN, ANTHONY. Structure Formation in a Universe with Cold Plus Hot Dark Matter. *Anthony van Dalen & Robert K. Schaefer.* 398, 33, 182-D9 (1992)

VANDENBERG, DON A. Oxygen-enhanced Models for Globular Cluster Stars. I. Evolutionary Tracks. *Don A. VandenBerg.* 391, 685, 96-E5 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. II. Isochrones and Luminosity Functions. *Peter A. Bergbusch & Don A. VandenBerg.* 81, 163, 37-C11 (1992)

VAN DEN BERGH, SIDNEY. The Luminosity of Supernovae of Type Ia. I. Apparent Magnitudes at Maximum Light. *Sidney van den Bergh & John Pazder.* 390, 34, 74-D13 (1992)

Supernova Rates and the Reddening of Wolf-Rayet Stars. *Sidney van den Bergh.* 390, 133, 75-F1 (1992)

VANDEN BOUT, PAUL A. [C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

VAN DER HUCHT, K. A. An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

VAN DER HULST, THIJS. Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

VAN DER KLIS, M. Simultaneous X-Ray and Radio Observations of GX 5−1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

VANDERVOORT, PETER O. A Rotating Stäckel Potential. *G. Contopoulos & Peter O. Vandervoort.* 389, 118, 61-E1 (1992)

VAN DISHOECK, EWINE F. Chemistry in Circumstellar Disks: CS toward HL Tauri. *Geoffrey A. Blake, Ewine F. van Dishoeck, & Anneila I. Sargent.* 391, L99, 100-A5 (1992)

Interstellar H_3O^+ and Its Relation to the O_2 and H_2O Abundances. *T. G. Phillips, Ewine F. van Dishoeck, & Jocelyn Keene.* 399, 533, 204-E1 (1992)

VAN DYK, SCHUYLER D. The 20 and 6 Centimeter Radio Light Curves for SN 1981K: A Type II Radio Supernova. *Schuyler D. Van Dyk, Kurt W. Weiler, Richard A. Sramek, & Nino Panagia.* 396, 195, 157-E4 (1992)

Full Evolution of the 6 and 20 Centimeter Radio Emission from SN 1980K. *Kurt W. Weiler, Schuyler D. Van Dyk, Nino Panagia, & Richard A. Sramek.* 398, 248, 184-G9 (1992)

Evidence for Periodic Modulation of Presupernova Mass Loss from the Progenitor of SN 1979C. *Kurt W. Weiler, Schuyler D. Van Dyk, James E. Pringle, & Nino Panagia.* 399, 672, 206-C5 (1992)

VAN GORKOM, J. H. H I Imaging of Four Quasar-Galaxy Pairs: The Parent Galaxies of Low-Redshift Quasar Absorption Systems. *C. L. Carilli & J. H. van Gorkom.* 399, 373, 202-E7 (1992)

VAN HORN, H. M. Effects of Fe/C Phase Separation on the Ages of White Dwarfs. *Z. W. Xu & H. M. Van Horn.* 387, 662, 47-A1 (1992)

Determining the Coherence of Micropulses. *T. E. Strohmayer, J. M. Cordes, & H. M. Van Horn.* 389, 685, 69-G12 (1992)

Inertial Mode Oscillations of Jupiter. *Umin Lee, Tod E. Strohmayer, & H. M. Van Horn.* 397, 674, 179-D10 (1992)

Pycnonuclear Reaction Rates for Binary Ionic Mixtures. *S. Ichimaru, S. Ogata, & H. M. Van Horn.* 401, L35, 227-E7 (1992)

VAN HORN, HUGH M. The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)

VAN LANGEVELDE, HUIB JAN. Interstellar Scattering toward the Galactic Center as Probed by OH/IR Stars. *Huib Jan van Langevelde, Dale A. Frail, James M. Cordes, & Philip J. Diamond.* 396, 686, 165-G9 (1992)

VAN PARADIJS, J. Simultaneous X-Ray and Radio Observations of GX 5−1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

VAN URK, G. Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

VAN URK, G. AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

VAN WEERT, CH. G. Relativistic Two-Moment Neutrino Transport. *J. Cernohorsky & Ch. G. van Weert.* 398, 190, 184-C1 (1992)

VAN WYK, FRANÇOIS. First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

VARBERG, THOMAS D. Accurate Far-Infrared Rotational Frequencies of Carbon Monoxide. *Thomas D. Varberg & Kenneth M. Evenson.* 385, 763, 22-E8 (1992)

VARENDORFF, MARTIN. On the Angular Extent of the Galactic 1.8 MeV Line Emission from Radioactive ^{26}Al. *Martin Varendorff & Volker Schönfelder.* 395, 158, 142-B7 (1992)

VASSILIADIS, E. A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

The Kinematics of Planetary Nebulae in the Outer Fields of the Large Magellanic Cloud. *E. Vassiliadis, Stephen J. Meatheringham, & Michael A. Dopita.* 394, 489, 135-D7 (1992)

Optical Spectroscopy of Magellanic Cloud Planetary Nebulae. III. *E. Vassiliadis, Michael A. Dopita, D. H. Morgan, & J. F. Bell.* 83, 87, 58-B1 (1992)

VAUCLAIR, G. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

VAUCLAIR, GERARD P. The Identification of Highly Ionized Metal Species in the Hot DA1 White Dwarf G191-B2B with the *Hubble Space Telescope* Faint Object Spectrograph. *Edward M. Sion, Ralph C. Bohlin, Richard W. Tweedy, & Gerard P. Vauclair.* 391, L29, 92-B11 (1992)

VAUGHAN, B. X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

VEALE, A. Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

VEDRENNE, G. See SUNYAEV, R., et al. X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line.

VEERARAGHAVAN, SHOBA. Large-Scale Microwave Anisotropy from Gravitating Seeds. *Shoba Veeraraghavan & Albert Stebbins.* 395, L55, 153-E1 (1992)

VEGA, E. IRENE. Dust within Globular Clusters: A Large Bubble in NGC 6624? *Juan C. Forte, Sergio A. Cellone, Mariano Méndez, & E. Irene Vega.* 388, 383, 55-B4 (1992)

VEILLEUX, SYLVAIN. Near-Infrared Spectra and Classification Diagnostics of Seyfert Galaxies. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 196, 62-D7 (1992)

Faint Emission Lines in the Spectrum of the Orion Nebula and the Abundances of Some of the Rarer Elements. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 305, 63-F11 (1992)

VEKSTEIN, G. E. Magnetohydrodynamic Equilibria and Cusp Formation at an X-Type Neutral Line by Footpoint Shearing. *G. E. Vekstein & E. R. Priest.* 384, 333, 5-B3 (1992)

VELTRI, PIERLUIGI. Incompressible Disturbances in Nonuniform Media: Formation of Small Scales. *Francesco Malara, Pierluigi Veltri, Claudio Chiuderi, & Giorgio Einaudi.* 396, 297, 158-F13 (1992)

VENNES, STEPHANE. Eclipse Studies of the Dwarf Nova HT Cassiopeiae. II. White Dwarf and Accretion Disk. *Janet H. Wood, Keith Horne, & Stephane Vennes.* 385, 294, 15-E6 (1992)

The Constitution of the Atmospheric Layers and the Extreme Ultraviolet Spectrum of Hot Hydrogen-rich White Dwarfs. *Stéphane Vennes.* 390, 590, 82-F1 (1992)

Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

An Interpretation of the Spectral Properties of Hot Hydrogen-rich White Dwarfs with Stratified H/He Model Atmospheres. *Stéphane Vennes & Gilles Fontaine.* 401, 288, 224-E7 (1992)

VERDAGUER, ENRIC. Inhomogeneous Cosmologies with Shock Waves. *Anna Curir, Mauro Francaviglia, & Enric Verdaguer.* 397, 390, 175-E3 (1992)

VERDES-MONTENEGRO, L. On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

VERMA, R. P. Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

VERNETTO, S. See AGLIETTA, M., et al. Search for 100 TeV γ-Ray Emission from the Galactic Disk.

VERSCHUUR, G. L. The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J Rickard, F. Verter, M. W. Pound, & D. Leisawitz.* 390, 514, 81-F7 (1992)

VERTER, F. The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J Rickard, F. Verter, M. W. Pound, & D. Leisawitz.* 390, 514, 81-F7 (1992)

VERTER, FRANCES. Predicted Galaxy Counts in CO Emission. *Frances Verter.* 386, 398, 30-D1 (1992)

VETTOLANI, GIAMPAOLO. Possible Geometric Patterns in 0.1*c* Scale Structure. *R. Brent Tully, Roberto Scaramella, Giampaolo Vettolani, & Giovanni Zamorani.* 388, 9, 49-B10 (1992)

VIEGAS, S. M. Line-of-Sight Results from H II Region Models. *R. B. Gruenwald & S. M. Viegas.* 78, 153, 3-E7 (1992)

The Origin of the Optical Emission Lines Associated with Extragalactic Radio Sources. *S. M. Viegas & E. M. de Gouveia Dal Pino.* 384, 467, 8-A1 (1992)

VIEGAS, SUELI M. Infrared Lines from Active Galactic Nuclei: A Theoretical Approach. *Marcella Contini & Sueli M. Viegas.* 401, 481, 228-F3 (1992)

VIGOTTI, M. Identification and Spectroscopy of Radio Sources from the Third Bologna Survey. *D. J. Thompson, S. Djorgovski, M. Vigotti, & G. Grueff.* 81, 1, 35-B1 (1992)

VÍLCHEZ, JOSÉ M. On the Chemodynamics of Wolf-Rayet Ring Nebulae: NGC 6888. *César Esteban & José M. Vílchez.* 390, 536, 82-A7 (1992)

VILHU, O. Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

VILLONE, BARBARA. A Simple Multifractal Model of Nonlinear Gravitational Clustering. *Antonello Provenzale, Piero Galeotti, Giuseppe Murante, & Barbara Villone.* 401, 455, 228-D1 (1992)

VILLUMSEN, J. V. The Mass Function of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 394, 409, 134-D5 (1992)

The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 400, 398, 215-C5 (1992)

VILLUMSEN, JENS V. Topology of Large-Scale Structure in Seeded Hot Dark Matter Models. *Matthew M. Beaky, Robert J. Scherrer, & Jens V. Villumsen.* 387, 443, 44-C1 (1992)

VIO, R. Time Series Analysis in Astronomy: An Application to Quasar Variability Studies. *R. Vio, S. Cristiani, O. Lessi, & A. Provenzale.* 391, 518, 94-D5 (1992)

VISHNIAC, ETHAN T. Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)

An Examination of the $m = 1$ Instability in a Low-Mass Protoplanetary Disk. *Hyerim Noh, Ethan T. Vishniac, & William D. Cochran.* 397, 347, 172-B11 (1992)

Local Magnetohydrodynamic Instabilities and the Wave-driven Dynamo in Accretion Disks. *Ethan T. Vishniac & Patrick Diamond.* 398, 561, 191-B5 (1992)

VISNOVSKY, K. L. Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

VISSER, B. AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

VITTORIO, N. Testing the Isotropy of the Cosmic Microwave Background: The ULISSE Experiment. *P. de Bernardis, S. Masi, F. Melchiorri, B. Melchiorri, & N. Vittorio.* 396, L57, 166-G1 (1992)

VITTORIO, NICOLA. Anisotropies of the Cosmic Microwave Background in Nonstandard Cold Dark Matter Models. *Nicola Vittorio & Joseph Silk.* 385, L9, 17-B6 (1992)

Cold Dark Matter versus Baryon-dominated Universes: Comparison with Peculiar Velocity and Acceleration Measurements. *Paola Del Grande & Nicola Vittorio.* 397, 26, 168-D1 (1992)

VIVEKANAND, MADDALI. See PAN, XIAOPEI, et al. Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison.

VOGEL, S. N. Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)

VOGELEY, MICHAEL S. Large-Scale Clustering of Galaxies in the CfA Redshift Survey. *Michael S. Vogeley, Changbom Park, Margaret J. Geller, & John P. Huchra.* 391, L5, 91-G1 (1992)

VOGT, NIKOLAUS. The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

VOIT, G. MARK. Infrared Fine-Structure Line Diagnostics of Shrouded Active Galactic Nuclei. *G. Mark Voit.* 399, 495, 204-B1 (1992)

VOLK, KEVIN. Models of Planetary Nebula Spectral Evolution. *Kevin Volk.* 80, 347, 27-B11 (1992)

Candidates for Extreme Carbon Stars. *Kevin Volk, Sun Kwok, & Philip P. Langill.* 391, 285, 89-D12 (1992)

A Model of the 8–25 Micron Point Source Infrared Sky. *Richard J. Wainscoat, Martin Cohen, Kevin Volk, Helen J. Walker, & Deborah E. Schwartz.* 83, 111, 58-D11 (1992)

VOLLICK, DAN N. String-induced Density Perturbations in Hot Dark Matter. *Dan N. Vollick.* 397, 14, 168-C1 (1992)

VON MONTIGNY, C. See HARTMAN, R. C., et al. Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*.

See SREEKUMAR, P., et al. Observations of the Large Magellanic Cloud in High-Energy Gamma Rays.

See MICHELSON, P. F., et al. Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*.

See LIN, Y. C., et al. Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*.

VON STEIGER, R. Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE*. *R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

VOSS, F. On the Calculation of Maxwellian-averaged Capture Cross Sections. *Hermann Beer, F. Voss, & R. R. Winters.* 80, 403, 27-G13 (1992)

VRBA, FREDERICK J. Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)

VRTILEK, J. M. Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

WACHTER, K. The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

WADA, SETSUKO. Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

WADE, R. A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

WAGNER, R. M. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)

The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

WAGNER, R. MARK. See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

WAGONER, ROBERT V. Diskoseismology: Probing Accretion Disks. II. *g*-Modes, Gravitational Radiation Reaction, and Viscosity. *Michael A. Nowak & Robert V. Wagoner.* 393, 697, 124-E1 (1992)

WAINSCOAT, RICHARD J. A Model of the 8–25 Micron Point Source Infrared Sky. *Richard J. Wainscoat, Martin Cohen, Kevin Volk, Helen J. Walker, & Deborah E. Schwartz.* 83, 111, 58-D11 (1992)

NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

WAKATSUKI, SHIGETO. The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)

WALBORN, NOLAN R. Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

Two-Stage Starbursts in the Large Magellanic Cloud: N11 as a Once and Future 30 Doradus. *Nolan R. Walborn & Joel Wm. Parker.* 399, L87, 201-C5 (1992)

WALDRON, L. See SOOD, R. K., et al. SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration.

WALKER, A. R. The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)

WALKER, ALISTAIR R. The Absolute Magnitudes of LMC RR Lyrae Variables and the Ages of Galactic Globular Clusters. *Alistair R. Walker.* 390, L81, 85-A7 (1992)

The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

WALKER, ANDREW R. γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)

WALKER, CHRISTOPHER K. Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

WALKER, G. A. H. τ Pegasi: A Fourier Representation of Line-Profile Variations. *E. J. Kennelly, G. A. H. Walker, & William J. Merryfield.* 400, L71, 220-E8 (1992)

WALKER, GORDON A. H. γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker,*

Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson. 396, L91, 167-D1 (1992)

WALKER, H. J. The Low Filling Factor of Dust in the Galaxy. *Jayant Murthy, H. J. Walker, & R. C. Henry.* 401, 574, 229-F8 (1992)

WALKER, HELEN J. A Model of the 8–25 Micron Point Source Infrared Sky. *Richard J. Wainscoat, Martin Cohen, Kevin Volk, Helen J. Walker, & Deborah E. Schwartz.* 83, 111, 58-D11 (1992)

WALKER, MARK A. Radiation Dynamics in X-Ray Binaries. I. Type 1 Bursts. *Mark A. Walker.* 385, 642, 21-B1 (1992)

Radiation Dynamics in X-Ray Binaries. II. Type 2 Bursts. *Mark A. Walker.* 385, 651, 21-B12 (1992)

Radiation Dynamics in X-Ray Binaries. III. Extremely Compact Objects. *Mark A. Walker.* 385, 661, 21-C10 (1992)

WALKER, TERRY P. Production of Li, Be, and B in the Early Galaxy. *Gary Steigman & Terry P. Walker.* 385, L13, 17-B11 (1992)

WALLER, WILLIAM H. Walls and Windows in the Molecular Milky Way. *William H. Waller & Lowell E. Tacconi-Garman.* 80, 305, 26-D3 (1992)

WALLIN, J. F. Mass Transfer and Loss in Interacting Disk Galaxies. *J. F. Wallin & B. V. Stuart.* 399, 29, 195-D10 (1992)

WALLIN, JOHN F. The Evolutionary History of the Interacting Galaxy System NGC 7714/7715 (Arp 284). *Beverly J. Smith & John F. Wallin.* 393, 544, 122-E7 (1992)

WALLINGTON, SYLVANIE. Determination of Lens Parameters from Gravitationally Lensed Gamma-Ray Bursts. *Ramesh Narayan & Sylvanie Wallington.* 399, 368, 202-E1 (1992)

WALMSLEY, C. M. The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992).

WALSH, J. R. Anisotropic Ionizing Radiation in Seyfert Galaxies. I. The Extended Narrow-Line Region in Markarian 573. *Zlatan Tsvetanov & J. R. Walsh.* 386, 485, 31-D5 (1992)

Spectacular Herbig-Haro Objects in the Carina Region. *K. Ogura & J. R. Walsh.* 400, 248, 212-A7 (1992)

WALTER, DONALD K. CNO Abundances and Temperature Fluctuations in the Orion Nebula. *Donald K. Walter, Reginald J. Dufour, & J. Jeff Hester.* 397, 196, 170-D7 (1992)

Extinction and Scattering in the Orion Nebula: Comparison of Optical and VLA 21 Centimeter Studies. *C. R. O'Dell, Donald K. Walter, & Reginald J. Dufour.* 399, L67, 200-G12 (1992)

WALTER, F. Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

WALTER, G. Measurement of the ^{76}Se(n, γ) Capture Cross Section and Phenomenological *s*-Process Studies: The Weak Component. *Hermann Beer, G. Walter, & F. Käppeler.* 389, 784, 71-B1 (1992)

WALTERBOS, RENÉ A. M. Physical Properties of Neutral Gas in M31 and the Galaxy. *Robert Braun & René A. M. Walterbos.* 386, 120, 25-E10 (1992)

WAMBSGANSS, J. Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)

WAMBSGANSS, JOACHIM. Probability Distributions for the Magnification of Quasars due to Microlensing. *Joachim Wambsganss.* 386, 19, 24-C7 (1992)

Caustic-induced Features in Microlensing Magnification Probability Distributions. *Kevin P. Rauch, Shude Mao, Joachim Wambsganss, & Bohdan Paczyński.* 386, 30, 24-D10 (1992)

Gravitational Microlensing: The Effect of a Single Lens and the Impact of Sparse Sampling. *Joachim Wambsganss.* 392, 424, 107-E8 (1992)

A Direct Gravitational Lensing Test for 10^6 $M_\odot$ Black Holes in Halos of Galaxies. *Joachim Wambsganss & Bohdan Paczyński.* 397, L1, 173-A8 (1992)

WAMSTEKER, W. See CLAVEL, J., et al. Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548.

WANG, C.-C. Power Spectra of Median- and Small-Scale Solar Convection. *D.-Y. Chou, C.-S. Chen, K.-T. Ou, & C.-C. Wang.* 396, 333, 159-B11 (1992)

WANG, HAIMIN. Detection of "Invisible Sunspots." *Harold Zirin & Haimin Wang.* 385, L27, 17-C12 (1992)

WANG, J. C. L. Intrinsically Asymmetric Astrophysical Jets. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 390, 46, 74-F1 (1992)

WANG, QINGDE. A Comprehensive X-Ray Study of the Small Magellanic Cloud. *Qingde Wang & Xiaoyi Wu.* 78, 391, 7-G5 (1992)

A Deep Image of the Diffuse Soft X-Ray Background at the Galactic Plane. *Qingde Wang.* 392, 509, 108-E11 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

WANG, T. G. Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5–1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

WANG, W. Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

WANG, XIAOGANG. Forced Reconnection, Current Sheets, and Coronal Heating. *Xiaogang Wang & A. Bhattacharjee.* 401, 371, 225-F1 (1992)

WANG, Y.-M. On Potential Field Models of the Solar Corona. *Y.-M. Wang & N. R. Sheeley, Jr.* 392, 310, 104-G1 (1992)

A New Determination of the Solar Rotation Rate. *N. R. Sheeley, Jr., Y.-M. Wang, & A. G. Nash.* 401, 378, 225-F9 (1992)

WANG, Z. Strongly Shocked Interstellar Gas in IC 443. I. High-Resolution Molecular Observations. *Z. Wang & N. Z. Scoville.* 386, 158, 26-B3 (1992)

WANG, ZHENRU. The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

WANG, ZHONG. High-Resolution CO Observations of NGC 7252: A Counterrotating Central Molecular Gas Disk. *Zhong Wang, François Schweizer, & Nicholas Z. Scoville.* 396, 510, 163-G5 (1992)

The Compactness of Far-Infrared Bright Galaxies. *Zhong Wang & George Helou.* 398, L33, 187-E7 (1992)

WANNIER, P. G. Circumprotostellar Environments. I. Molecular Outflows from Protostar Candidates in Taurus. *G. H. Moriarty-Schieven, P. G. Wannier, M. Tamura, & Jocelyn Keene.* 400, 260, 212-B10 (1992)

WANNIER, PETER G. SO and SO_2 in Mass-Loss Envelopes of Red Giants: Probes of Nonequilibrium Circumstellar Chemistry and Mass-Loss Rates. *Raghvendra Sahai & Peter G. Wannier.* 394, 320, 132-A3 (1992)

WARD, MARTIN J. Infrared Hot Spots in the Nucleus of NGC 253: Erratum. *Duncan A. Forbes, Martin J. Ward, & D. L. DePoy.* 385, L31, 17-D10 (1992) (Orig. paper in 380, L63, 188-C6 (1991))

Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

WARDLE, J. F. C. A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

WARDLE, MARK. Gravitational Lensing by a Massive Black Hole at the Galactic Center. *Mark Wardle & Farhad Yusef-Zadeh.* 387, L65, 48-C1 (1992)

WARNER, B. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

WARNER, BRIAN. The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

WARREN, MICHAEL S. Dark Halos Formed via Dissipationless Collapse. I. Shapes and Alignment of Angular Momentum. *Michael S. Warren, Peter J. Quinn, John K. Salmon, & Wojciech H. Zurek.* 399, 405, 203-A11 (1992)

WASSERMAN, IRA. Relaxation-driven Binary Mergers. *Sergio Gelato, David F. Chernoff, & Ira Wasserman.* 384, 15, 1-C1 (1992)

The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

Statistics of Gamma-Ray Bursts: Homogeneous Spherical Models. *Ira Wasserman.* 394, 565, 136-D2 (1992)

WATANABE, KAZUYA. On Distances and the Hubble Parameter Determination in Gravitational Lenses. *Kazuya Watanabe, Misao Sasaki, & Kenji Tomita.* 394, 38, 128-E1 (1992)

WATANABE, SEI-ICHIRO. Collision and Tidal Interaction between Planetesimals. *Sei-ichiro Watanabe & Shoken M. Miyama.* 391, 318, 89-G11 (1992)

WATERS, L. B. F. M. Dynamics of the Envelopes of Be Stars in the Equatorial Plane. *Haiqi Chen, J. M. Marlborough, & L. B. F. M. Waters.* 384, 605, 9-F1 (1992)

WATSON, J. K. G. Occurrence of Global-Scale Emissions on Jupiter: Proposed Identification of Jovian Dimer H_2 Emission. *L. M. Trafton & J. K. G. Watson.* 385, 320, 15-G8 (1992)

The Rotational Spectrum of the Carbon Chain Radical HCCCO. *A. L. Cooksy, J. K. G. Watson, C. A. Gottlieb, & P. Thaddeus.* 386, L27, 29-D7 (1992)

See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

WATSON, P. G. Fast Dynamic Reconnection at X-Type Neutral Points. *I. J. D. Craig & P. G. Watson.* 393, 385, 118-G11 (1992)

WATSON, WILLIAM D. The Zeeman Effect in Astrophysical Water Masers and the Observation of Strong Magnetic Fields in Regions of Star Formation. *Gerald E. Nedoluha & William D. Watson.* 384, 185, 3-C5 (1992)

Radiative Instabilities and 1000 Second Fluctuations in Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 387, L73, 48-C10 (1992)

Rapid Time Variations and Radiative Instabilities of Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 400, 351, 213-C7 (1992)

WATT, G. D. See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

WEAVER, K. A. Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics. *K. A. Weaver, R. F. Mushotzky, K. A. Arnaud, P. J. Serlemitsos, F. E. Marshall, R. Petre, K. M. Jahoda, E. A. Boldt, S. S. Holt, J. Swank, A. E. Szymkowiak, R. Kelley, A. P. Smale, & C. Done.* 401, L11, 227-B9 (1992)

WEAVER, KIMBERLY A. Hard X-Ray Tests of the Unified Model for an Ultraviolet-detected Sample of Seyfert 2 Galaxies. *John S. Mulchaey, Richard F. Mushotzky, & Kimberly A. Weaver.* 390, L69, 84-G1 (1992)

WEAVER, WM. BRUCE. A Catalog of Co-added *IRAS* Fluxes of Orion Population Stars. *Wm. Bruce Weaver & Gordon Jones.* 78, 239, 4-G7 (1992)

WEBB, G. M. Wave Diffraction in Weak Cosmic-Ray–modified Shocks. *G. M. Webb & G. P. Zank.* 396, 549, 164-C9 (1992)

WEBB, J. K. The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

WEBBER, W. R. Propagation of Cosmic-Ray Nuclei in a Diffusing Galaxy with Convective Halo and Thin Matter Disk. *W. R. Webber, M. A. Lee, & M. Gupta.* 390, 96, 75-C3 (1992)

The Isotopic Composition of Cosmic-Ray B, C, N, and O: Evidence for an Overabundance of ^{18}O. *P. S. Gibner, R. A. Mewaldt, S. M. Schindler, E. C. Stone, & W. R. Webber.* 391, L89, 99-G5 (1992)

Studies of the Low-Energy Galactic Cosmic-Ray Composition near 28 AU at Sunspot Minimum: The Primary-to-Primary Ratios. *W. R. Webber, P. Ferrando, A. Lukasiak, & F. B. McDonald.* 392, L91, 113-F1 (1992)

WEBBINK, RONALD F. The Evolution of Low-Mass Close Binary Systems. V. Transport Processes in the Envelopes of Contact Components: Erratum. *Ronald F. Webbink.* 396, 378, 159-G3 (1992) (Orig. paper in 215, 851, 69-E2 (1977))

WEBER, F. Application of the Improved Hartle Method for the Construction of General Relativistic Rotating Neutron Star Models. *F. Weber & N. K. Glendenning.* 390, 541, 82-B1 (1992)

Nuclear Solid Crust on Rotating Strange Quark Stars. *N. K. Glendenning & F. Weber.* 400, 647, 218-D11 (1992)

WEBSTER, A. S. See AVERY, L. W., et al. A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths.

WEBSTER, R. L. Using Gamma-Ray Bursts to Detect a Cosmological Density of Compact Objects. *O. M. Blaes & R. L. Webster.* 391, L63, 99-D7 (1992)

WEBSTER, RACHEL L. The Central Velocity Dispersion of the Lensing Galaxy in the Quadruple Lens System Q2237+0305. *Craig B. Foltz, Paul C. Hewett, Rachel L. Webster, & Geraint F. Lewis.* 386, L43, 36-C1 (1992)

WEEKES, T. C. See O'FLAHERTY, K. S., et al. A Search for TeV Emission from Cygnus X-3.

WEGNER, GARY. Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

WEHRLE, ANN E. The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

Kinematics of the Parsec-Scale Relativistic Jet in 3C 345. *Stephen C. Unwin & Ann E. Wehrle.* 398, 74, 183-A1 (1992)

WEHRSE, R. Spherically Symmetric, Expanding, Non–LTE Model Atmospheres for Novae during Their Early Stages. *P. H. Hauschildt, R. Wehrse, S. Starrfield, & G. Shaviv.* 393, 307, 118-A4 (1992)

WEI, C. Y. Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5–1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

WEIGELT, G. See KING, I. R., et al. Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31.

See BLADES, J. C., et al. Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera.

WEILER, KURT W. The 20 and 6 Centimeter Radio Light Curves for SN 1981K: A Type II Radio Supernova. *Schuyler D. Van Dyk, Kurt W. Weiler, Richard A. Sramek, & Nino Panagia.* 396, 195, 157-E4 (1992)

Full Evolution of the 6 and 20 Centimeter Radio Emission from SN 1980K. *Kurt W. Weiler, Schuyler D. Van Dyk, Nino Panagia, & Richard A. Sramek.* 398, 248, 184-G9 (1992)

Evidence for Periodic Modulation of Presupernova Mass Loss from the Progenitor of SN 1979C. *Kurt W. Weiler, Schuyler D. Van Dyk, James E. Pringle, & Nino Panagia.* 399, 672, 206-C5 (1992)

WEINBERG, DAVID H. Galaxies and Gas in a Cold Dark Matter Universe. *Neal Katz, Lars Hernquist, & David H. Weinberg.* 399, L109, 207-F1 (1992)

WEINBERG, MARTIN D. Detection of a Large-Scale Stellar Bar in the Milky Way. *Martin D. Weinberg.* 384, 81, 2-A10 (1992)

Constraints on the Galactic Bulge Using *IRAS* Variable Point Sources. *Martin D. Weinberg.* 392, L67, 113-C10 (1992)

Bar-Spheroid Interaction in Galaxies. *Lars Hernquist & Martin D. Weinberg.* 400, 80, 210-A6 (1992)

WEINTRAUB, DAVID A. The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)

Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

WEISS, N. O. X-Ray Observations of Sunspot Penumbral Structure. *B. J. Sams III, L. Golub, & N. O. Weiss.* 399, 313, 199-B8 (1992)

WEISS, R. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

WEISTROP, D. An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

WELCH, WILLIAM J. The Molecular Core in G34.3+0.2: Millimeter Interferometric Observations of HCO^+, $H^{13}CN$, $HC^{15}N$, and SO. *Patricia Carral & William J. Welch.* 385, 244, 15-A4 (1992)

Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

WELSH, W. F. Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

WELTY, ALAN D. Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

WELTY, DANIEL E. Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

WEN, ZHENG. Motion at the Ionization Front in the Orion Nebula: A Kinematic Study of the [O I] Line. *C. R. O'Dell & Zheng Wen.* 387, 229, 39-F10 (1992)

WENTZEL, DONAT G. Structure of Sunspot Penumbrae: Fallen Magnetic Flux Tubes. *Donat G. Wentzel.* 388, 211, 51-E11 (1992)

Solar Active Regions as a Percolation Phenomenon. *Donat G. Wentzel & Philip E. Seiden.* 390, 280, 77-D10 (1992)

WENZEL, K.-P. Energy Spectra of Ions from Impulsive Solar Flares. *D. V. Reames, I. G. Richardson, & K.-P. Wenzel.* 387, 715, 47-E11 (1992)

WERNER, M. Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

WERNER, M. W. The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

WESEMAEL, F. On the Influence of the Convective Efficiency on the Determination of the Atmospheric Parameters of DA White Dwarfs. *P. Bergeron, F. Wesemael, & G. Fontaine.* 387, 288, 40-E1 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. II. Mode Trapping in Compositionally Stratified Models. *P. Brassard, G. Fontaine, F. Wesemael, & C. J. Hansen.* 80, 369, 27-E3 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. III. A Finite-Element Code for Solving Nonradial Pulsation Equations. *P. Brassard, C. Pelletier, G. Fontaine, & F. Wesemael.* 80, 725, 33-D11 (1992)

The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. IV. An Extensive Survey of the Period Structure of Evolutionary Models. *P. Brassard, G. Fontaine, F. Wesemael, & M. Tassoul.* 81, 747, 45-D3 (1992)

A Study of Metal Abundance Patterns in Cool White Dwarfs. I. Time-dependent Calculations of Gravitational Settling. *J. Dupuis, G. Fontaine, C. Pelletier, & F. Wesemael.* 82, 505, 56-A7 (1992)

The Case of G226-29: Evidence for a Pulsating DA White Dwarf with a Thick Hydrogen Layer? *G. Fontaine, P. Brassard, P. Bergeron, & F. Wesemael.* 399, L91, 201-C13 (1992)

WESSELIUS, P. R. An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

WESSON, PAUL S. A Physical Interpretation of Kaluza-Klein Cosmology. *Paul S. Wesson.* 394, 19, 128-C9 (1992)

The Perihelion Problem in Kaluza-Klein Gravity. *Paul H. Lim & Paul S. Wesson.* 397, L91, 181-B8 (1992)

WEST, MICHAEL J. The Cluster Correlation Function: Consistent Results from an Automated Survey. *Neta A. Bahcall & Michael J. West.* 392, 419, 107-E1 (1992)

WEST, R. G. See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

WEST, S. C. Infrared Imaging of $z > 2$ Radio Galaxies. *P. J. McCarthy, S. E. Persson, & S. C. West.* 386, 52, 24-F7 (1992)

WESTBURY, CATHERINE F. Turbulence in Cooling Flows. *Catherine F. Westbury & R. N. Henriksen.* 388, 64, 49-G12 (1992)

WEYMANN, R. J. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

WEYMANN, RAY J. The Radio Properties of the Broad-Absorption-Line QSOs. *John T. Stocke, Simon L. Morris, Ray J. Weymann, & Craig B. Foltz.* 396, 487, 163-E5 (1992)

Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)

See KORISTA, KIRK T., et al. *Hubble Space Telescope* Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226–1024.

WHANG, Y. C. Two-dimensional Slow Shock Reconnection. *Y. C. Whang.* 392, 637, 110-B9 (1992)

WHEATON, W. A. *HEAO 3* Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)

WHEELER, J. C. Explosion of a Supernova with a Red Giant Companion. *E. Livne, Y. Tuchman, & J. C. Wheeler.* 399, 665, 206-B11 (1992)

WHEELER, J. CRAIG. Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)

Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei: Erratum. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 399, 330, 199-E1 (1992) (Orig. paper in 384, 269, 4-C7 (1992))

WHITE, MARTIN. Gravitational Lensing, Finite Galaxy Cores, and the Cosmological Constant. *Lawrence M. Krauss & Martin White.* 394, 385, 134-B1 (1992)

Gravitational Lensing and the Variability of *G. Lawrence M. Krauss & Martin White.* 397, 357, 175-B4 (1992)

WHITE, N. M. A New Solar Irradiance Calibration from 3295 Å to 8500 Å Derived from Absolute Spectrophotometry of Vega. *G. W. Lockwood, H. Tüg, & N. M. White.* 390, 668, 83-E9 (1992)

WHITE, R. L. Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)

WHITE, R. S. The Spatial Distribution of Gamma-Ray Bursts from *Pioneer Venus Orbiter*. *K. W. Chuang, R. S. White, R. W. Klebesadel, & J. G. Laros.* 391, 242, 89-A4 (1992)

WHITE, R. STEPHEN. Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J.*

O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White. 386, 715, 34-B11 (1992)

WHITE, RAYMOND E., III. Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

WHITE, RICHARD A. A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

WHITE, RICHARD L. π^0-Decay Gamma-Ray Emission from Winds of Massive Stars. *Richard L. White & Wan Chen.* 387, L81, 48-D6 (1992)

A New Catalog of 30,239 1.4 GHz Sources. *Richard L. White & Robert H. Becker.* 79, 331, 18-G9 (1992)

Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

WHITE, S. M. Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

High Dynamic Range Multifrequency Radio Observations of a Solar Active Region. *S. M. White, M. R. Kundu, & N. Gopalswamy.* 78, 599, 11-A13 (1992)

WHITE, SIMON D. M. Rotation of the Galactic Bulge. *Dante Minniti, Simon D. M. White, Edward W. Olszewski, & John M. Hill.* 393, L47, 127-B5 (1992)

Models for Galaxy Halos in an Open Universe. *Simon D. M. White & Dennis Zaritsky.* 394, 1, 128-B1 (1992)

WHITEOAK, J. B. OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

WHITMAN, PATRICK G. Velocity Streaming of *IRAS* Main-Sequence Disk Stars and the Episodic Enhancement of Particulate Disks by Interstellar Clouds. *Daniel P. Whitmire, John J. Matese, & Patrick G. Whitman.* 388, 190, 51-D1 (1992)

WHITMIRE, DANIEL P. Velocity Streaming of *IRAS* Main-Sequence Disk Stars and the Episodic Enhancement of Particulate Disks by Interstellar Clouds. *Daniel P. Whitmire, John J. Matese, & Patrick G. Whitman.* 388, 190, 51-D1 (1992)

WHITNEY, B. A. See SCHULTE-LADBECK, R. E., et al. The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae.

See SCHULTE-LADBECK, R. E., et al. Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry.

WHITNEY, BARBARA A. The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)

See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

Model Scattering Envelopes of Young Stellar Objects. I. Method and Application to Circumstellar Disks. *Barbara A. Whitney & Lee Hartmann.* 395, 529, 149-D1 (1992)

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

WHITNEY, JONATHAN H. See LANDSMAN, WAYNE B., et al. The Ultraviolet-bright Stars of Omega Centauri, M3, and M13.

WHITTET, D. C. B. Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

Spectropolarimetry of the 5797 Å Diffuse Interstellar Band. *A. J. Adamson & D. C. B. Whittet.* 398, L69, 188-C1 (1992)

WHITTLE, MARK. Virial and Jet-induced Velocities in Seyfert Galaxies. II. Galaxy Rotation as Virial Parameter. *Mark Whittle.* 387, 109, 38-D2 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. III. Galaxy Luminosity as Virial Parameter. *Mark Whittle.* 387, 121, 38-E1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. I. A Compilation of Narrow Line Region and Host Galaxy Properties. *Mark Whittle.* 79, 49, 13-A9 (1992)

WIBBERENZ, G. Composition and Azimuthal Spread of Solar Energetic Particles from Impulsive and Gradual Flares. *M.-B. Kallenrode, E. W. Cliver, & G. Wibberenz.* 391, 370, 90-D12 (1992)

Propagation Conditions of Relativistic Electrons in the Inner Heliosphere. *M.-B. Kallenrode, G. Wibberenz, & S. Hucke.* 394, 351, 132-C11 (1992)

WIBIG, T. Cosmic Rays from the Galactic Center: Path Length Distributions and Galactic Gradient in a Modified Model. *T. Wibig.* 390, 105, 75-D1 (1992)

WIBIG, TADEUSZ. Cosmic Rays from the Galactic Center: Electron and Positron Fluxes in a Modified Model. *Tadeusz Wibig.* 398, 507, 190-D9 (1992)

WICKRAMASINGHE, D. T. See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

WIDING, K. G. C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)

Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

Element Abundances and Plasma Properties in a Coronal Polar Plume. *K. G. Widing & U. Feldman.* 392, 715, 111-B5 (1992)

Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

WIEDEMANN, GUNTER. Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

WIEDENBECK, MARK E. The Isotopic Composition of Iron-Group Cosmic Rays. *Richard A. Leske, Barrett Milliken, & Mark E. Wiedenbeck.* 390, L99, 85-C7 (1992)

WIELEBINSKI, R. Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)

WIESCHER, M. A Measurement of the $^{14}C(n,\gamma)^{15}C$ Cross Section at a Stellar Temperature of $kT = 23.3$ keV. *Hermann Beer, M. Wiescher, F. Käppeler, J. Görres, & P. E. Koehler.* 387, 258, 40-B8 (1992)

WIGGS, MICHAEL S. Tomographic Separation of Composite Spectra. I. The Components of Plaskett's Star. *William G. Bagnuolo, Jr., Douglas R. Gies, & Michael S. Wiggs.* 385, 708, 21-G12 (1992)

A Spectroscopic Search for Colliding Stellar Winds in O-Type Close Binary Systems. II. Plaskett's Star (HD 47129). *Michael S. Wiggs & Douglas R. Gies.* 396, 238, 158-A12 (1992)

WIITA, PAUL J. Numerical Simulations of Hydrodynamical Jets Crossing a Galactic Halo/Intracluster Medium Interface. *Paul J. Wiita & Michael L. Norman.* 385, 478, 19-B7 (1992)

Standing Shocks in Accretion Disks and the Spectra of Active Galactic Nuclei. *Sandip K. Chakrabarti & Paul J. Wiita.* 387, L21, 43-C4 (1992)

WILKES, B. J. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

WILKES, BELINDA J. *EXOSAT* X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo*

Giommi, Belinda J. Wilkes, & Jonathan C. McDowell. 384, 62, 1-G1 (1992)

PKS 0438–436: A High-Redshift Quasar with Strong X-Ray Absorption. *Belinda J. Wilkes, Martin Elvis, Fabrizio Fiore, Jonathan C. McDowell, Harvey Tananbaum, & Andrew Lawrence.* 393, L1, 120-A9 (1992)

WILKING, BRUCE A. IRAS 16293–2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

WILKINSON, D. T. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

See WRIGHT, E. L., et al. Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer.

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

WILKINSON, ERIK. Extreme Ultraviolet Spectroscopy of G191-B2B: Direct Observation of Ionization Edges. *Erik Wilkinson, James C. Green, & Webster Cash.* 397, L51, 173-F13 (1992)

Extreme Ultraviolet Spectroscopy of Capella. *James C. Green, Erik Wilkinson, Thomas R. Ayres, & Webster Cash.* 397, L99, 181-C8 (1992)

WILKINSON, LADYE KATHRYN. On Neutralized Currents in the Solar Corona. *Ladye Kathryn Wilkinson, A. Gordon Emslie, & G. Allen Gary.* 392, L39, 106-E7 (1992)

WILL, CLIFFORD M. Is Momentum Conserved? A Test in the Binary System PSR 1913+16. *Clifford M. Will.* 393, L59, 127-C7 (1992)

WILLIAMS, G. A. Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

WILLIAMS, L. L. Viscous and Inertial Effects at Cosmic-Ray Shocks. *J. R. Jokipii & L. L. Williams.* 394, 184, 130-C8 (1992)

WILLIAMS, O. R. The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*. *O. R. Williams, M. J. L. Turner, G. C. Stewart, R. D. Saxton, T. Ohashi, K. Makishima, T. Kii, H. Inoue, F. Makino, K. Hayashida, & K. Koyama.* 389, 157, 62-A5 (1992)

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

WILLIAMS, O. REES. *Ginga* Observations of the Dipping Low-Mass X-Ray Binaries XB 1916–053 and EXO 0748–676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)

WILLIAMS, P. M. An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

WILLIAMS, R. E. A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

WILLIAMS, ROBERT E. TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)

Incorporation of Density Fluctuations into Photoionization Calculations. *Robert E. Williams.* 392, 99, 102-C1 (1992)

See SAIZAR, PEDRO, et al. A Multiwavelength Study of Nova QU Vulpeculae 1984.

WILLIAMS, T. B. Peculiar Velocities of Field Spiral Galaxies near and beyond the Great Attractor. *Gregory D. Bothun, Robert A. Schommer, T. B. Williams, Jeremy R. Mould, & J. P. Huchra.* 388, 253, 53-D10 (1992)

WILLIGER, GERARD M. Pressure-confined Lyα Clouds: Simulation Results versus Observations. *Gerard M. Williger & Arif Babul.* 399, 385, 202-G1 (1992)

WILLINGALE, R. See LIEU, R., et al. *ROSAT* Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays.

WILLMES, DAVID E. On the Sensitivity of the *N*-Body Problem to Small Changes in Initial Conditions. III. *Henry E. Kandrup, Haywood Smith, Jr., & David E. Willmes.* 399, 627, 205-F9 (1992)

WILLS, B. J. See PETERSON, B. M., et al. Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths.

WILLS, BEVERLEY J. A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)

Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

WILLS, D. A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)

Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

WILLSON, ROBERT F. Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

WILNER, DAVID J. High-Resolution Images of Dust Emission from Orion-KL. *Melvyn Wright, Goeran Sandell, David J. Wilner, & Richard L. Plambeck.* 393, 225, 117-A1 (1992)

WILSON, A. S. An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

WILSON, ANDREW S. The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

The Kinematics of the Extended Gas in the Seyfert Galaxy NGC 3516. *John S. Mulchaey, Zlatan Tsvetanov, Andrew S. Wilson, & Ismael Pérez-Fournon.* 394, 91, 129-B11 (1992)

Infrared Emission in Seyfert 2 Galaxies: Reprocessed Radiation from a Dusty Torus? *Thaisa Storchi-Bergmann, John S. Mulchaey, & Andrew S. Wilson.* 395, L73, 153-F12 (1992)

The Ionization Cone, Obscured Nucleus, and Gaseous Outflow in NGC 3281: A Prototypical Seyfert 2 Galaxy? *Thaisa Storchi-Bergmann, Andrew S. Wilson, & Jack A. Baldwin.* 396, 45, 155-F1 (1992)

WILSON, BRIAN G. Spin-Orbit Interaction Effects on the Rosseland Mean Opacity. *Carlos A. Iglesias, Forrest J. Rogers, & Brian G. Wilson.* 397, 717, 180-A7 (1992)

WILSON, CHRISTINE D. A Comparison of the Properties of an Unbiased Sample of OB Associations in the Local Group Galaxies M33 and NGC 6822. *Christine D. Wilson.* 384, L29, 11-B1 (1992)

The Molecular Interstellar Medium in Two Giant H II Regions in M33: NGC 604 and NGC 595. *Christine D. Wilson & Nick Scoville.* 385, 512, 19-E5 (1992)

CO Emission from the Dwarf Irregular Galaxy NGC 6822. *Christine D. Wilson.* 391, 144, 87-G1 (1992)

Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

WILSON, JAMES R. Can a Closure Mass Neutrino Help Solve the Supernova Shock Reheating Problem? *George M. Fuller, R. Mayle, Bradley S. Meyer, & James R. Wilson.* 389, 517, 67-G10 (1992)

WILSON, P. R. Helioseismology Data and the Solar Dynamo. *P. R. Wilson.* 399, 294, 198-G11 (1992)

WILSON, ROBERT B. See SCHAEFER, BRADLEY E., et al. High-Energy Spectral Breaks in Gamma-Ray Bursts.

WILSON, ROBERT W. The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

WILSON, T. L. The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

High Spatial Resolution 1.3 Centimeter Imaging of the NGC 2024 Star-forming Region. *R. A. Gaume, K. J. Johnston, & T. L. Wilson.* 388, 489, 56-D1 (1992)

Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

WINDHORST, ROGIER. Deep *Hubble Space Telescope* Imaging of a Compact Radio Galaxy at $z = 2.390$. *Rogier Windhorst, Douglas F. Mathis, & William C. Keel.* 400, L1, 214-A8 (1992)

WINGE, CLAUDIA. Optical Spectroscopy and Narrow-Band Images of the Variable Seyfert 1 Galaxy NGC 3783. *Claudia Winge, M. G. Pastoriza, T. Storchi-Bergmann, & S. Lípari.* 393, 98, 115-C11 (1992)

WINGET, D. E. Maximum Rates of Period Change for DA White Dwarf Models with Carbon and Oxygen Cores. *P. A. Bradley, D. E. Winget, & M. A. Wood.* 391, L33, 92-C1 (1992)

See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

WINGLEE, R. M. Characteristics of Hard X-Ray Spectra of Impulsive Solar Flares. *G. A. Dulk, A. L. Kiplinger, & R. M. Winglee.* 389, 756, 70-F11 (1992)

WINK, J. E. Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

WINKLER, P. FRANK. Six Balmer-dominated Supernova Remnants: Erratum. *R. Chris Smith, Robert P. Kirshner, William P. Blair, & P. Frank Winkler.* 384, 665, 10-D1 (1992) (Orig. paper in 375, 652, 120-G1 (1991))

The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

G203.2–12.3: A New Optical Supernova Remnant in Orion. *P. Frank Winkler & Bo Reipurth.* 389, L25, 66-D1 (1992)

A Rapid Decline in the Optical Emission from SN 1957D in M83. *Knox S. Long, P. Frank Winkler, & William P. Blair.* 395, 632, 151-A5 (1992)

WINN, M. M. Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

WINTERS, R. R. On the Calculation of Maxwellian-averaged Capture Cross Sections. *Hermann Beer, F. Voss, & R. R. Winters.* 80, 403, 27-G13 (1992)

WIRTH, G. D. Clusters in Collision? *M. P. Ulmer, G. D. Wirth, & M. P. Kowalski.* 397, 430, 176-A9 (1992)

WISE, MICHAEL W. Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

WISHNOW, E. H. Submillimeter Spectrum of Low-Temperature Hydrogen: The Pure Translational Band of H_2 and the $R(0)$ Line of HD. *E. H. Wishnow, I. Ozier, & H. P. Gush.* 392, L43, 106-F1 (1992)

WITT, A. N. Extended Red Emission from Dust in Planetary Nebulae. *D. G. Furton & A. N. Witt.* 386, 587, 32-F1 (1992)

WITT, ADOLF N. Dust and the Transfer of Stellar Radiation within Galaxies. *Adolf N. Witt, Harley A. Thronson, Jr., & John M. Capuano, Jr.* 393, 611, 123-D7 (1992)

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

WITTEBORN, F. C. Infrared Observations and Thermal Models of the β Pictoris Disk. *D. E. Backman, F. C. Gillett, & F. C. Witteborn.* 385, 670, 21-D8 (1992)

WITTMAN, D. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

WIZINOWICH, P. See LLOYD-HART, M., et al. First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network.

WOLFE, A. M. Lyman-Alpha Emission from the Damped Lyman-Alpha System toward H0836+113. *A. M. Wolfe, D. A. Turnshek, K. M. Lanzetta, & J. B. Oke.* 385, 151, 13-G7 (1992)

Magnetic Fields in Damped Lyα Systems. *A. M. Wolfe, K. M. Lanzetta, & A. L. Oren.* 388, 17, 49-C5 (1992)

WOLFF, M. J. The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

WOLFF, MICHAEL J. See CLAYTON, GEOFFREY C., et al. The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet.

WOLFF, MICHAEL T. Noise-driven Radiative Shocks. II. Further Implications for the Quasi-periodic Oscillations of the AM Herculis Objects. *Kent S. Wood, James N. Imamura, & Michael T. Wolff.* 398, 593, 191-E1 (1992)

WOLFSON, RICHARD. Energy Buildup in Sheared Force-free Magnetic Fields. *Richard Wolfson & Boon Chye Low.* 391, 353, 90-C6 (1992)

WOLLMAN, E. R. A Model of the Galactic Dark Halo. *E. R. Wollman.* 392, 80, 102-A8 (1992)

WOLSZCZAN, A. Precision Measurements of Pulsar Dispersion. *J. A. Phillips & A. Wolszczan.* 385, 273, 15-C8 (1992)

WOLTER, A. The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

WOLTER, ANNA. The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

WOMACK, M. A Survey of N_2H^+ in Dense Clouds: Implications for Interstellar Nitrogen and Ion-Molecule Chemistry. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 387, 417, 42-B6 (1992)

Estimates of N_2 Abundances in Dense Molecular Clouds. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 393, 188, 116-D6 (1992)

WOMACK, MARIA. NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

Observational Constraints on Solar Nebula Nitrogen Chemistry: N_2/NH_3. *Maria Womack, Susan Wyckoff, & L. M. Ziurys.* 401, 728, 231-E6 (1992)

WOMBLE, DONNA S. Detection of Ca II Absorption in the QSO 0958+559 Due to a Heiles Shell in NGC 3079. *Donna S. Womble, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 388, 55, 49-G1 (1992)

WOO, J. W. The Polar Cap Structure of the X-Ray Pulsar 4U 1538–52. *T. Bulik, P. Mészáros, J. W. Woo, F. Nagase, & K. Makishima.* 395, 564, 149-G9 (1992)

WOOD, D. A., JR. Three-Epoch VLBI Observations of the Nucleus in the Lobe-dominated Quasar 3C 334. *D. H. Hough, A. C. S. Readhead, D. A. Wood, Jr., & J. J. Feldmeier.* 393, 81, 115-B1 (1992)

WOOD, JANET H. Eclipse Studies of the Dwarf Nova HT Cassiopeiae. II. White Dwarf and Accretion Disk. *Janet H. Wood, Keith Horne, & Stephane Vennes.* 385, 294, 15-E6 (1992)

Eclipse Maps of the Accretion Disk in the Classical Nova V Persei. *Janet H. Wood, Timothy M. C. Abbott, & Allen W. Shafter.* 393, 729, 124-G10 (1992)

WOOD, K. S. Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

WOOD, KENT S. Noise-driven Radiative Shocks. II. Further Implications for the Quasi-periodic Oscillations of the AM Herculis Objects. *Kent S. Wood, James N. Imamura, & Michael T. Wolff.* 398, 593, 191-E1 (1992)

WOOD, M. A. Constraints on the Age and Evolution of the Galaxy from the White Dwarf Luminosity Function. *M. A. Wood.* 386, 539, 32-B3 (1992)

Maximum Rates of Period Change for DA White Dwarf Models with Carbon and Oxygen Cores. *P. A. Bradley, D. E. Winget, & M. A. Wood.* 391, L33, 92-C1 (1992)

See CLEMENS, J. C., et al. Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations.

The Binary System L151−81A/B: A Potential Test of Accretion Theory. *M. A. Wood & T. D. Oswalt.* 394, L53, 139-D1 (1992)

WOOD, P. On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)

WOOD, P. R. On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

WOODGATE, B. An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

WOODGATE, BRUCE E. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

WOODS, D. T. On the H_2 Line Emission from NGC 6240 and Other Starburst Galaxies: Erratum. *B. T. Draine & D. T. Woods.* 387, 732, 47-G1 (1992) (Orig. paper in 381, 288, 192-E5 (1991))

WOODS, JORDEN. Self-Organization of Cosmic Radiation Pressure Instability. II. One-dimensional Simulations. *Craig J. Hogan & Jorden Woods.* 384, 111, 2-D4 (1992)

WOODWARD, C. E. The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

WOODWARD, CHARLES E. The Peculiar, Fast Nova Herculis 1991. *Charles E. Woodward, R. D. Gehrz, Terry J. Jones, & G. F. Lawrence.* 384, L41, 11-C1 (1992)

Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

WOODWARD, JOHN W. Tidal Disruption of a Star by a Massive Disk (The Axisymmetric Roche Problem). *John W. Woodward, Srivaths Sankaran, & Joel E. Tohline.* 394, 248, 131-B1 (1992)

WOODY, D. P. Measurement of the Solar Limb Brightness Profile at 3 Millimeters during the Total Eclipse of 1991 July 11. *L. Belkora, G. J. Hurford, Dale E. Gary, & D. P. Woody.* 400, 692, 219-B1 (1992)

WOOSLEY, S. E. Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

The Collapse of White Dwarfs to Neutron Stars. *S. E. Woosley & E. Baron.* 391, 228, 88-G1 (1992)

The α-Process and the r-Process. *S. E. Woosley & Robert D. Hoffman.* 395, 202, 142-F7 (1992)

The Conductive Propagation of Nuclear Flames. I. Degenerate C + O and O + Ne + Mg White Dwarfs. *F. X. Timmes & S. E. Woosley.* 396, 649, 165-D9 (1992)

r-Process Nucleosynthesis in the High-Entropy Supernova Bubble. *B. S. Meyer, G. J. Mathews, W. M. Howard, S. E. Woosley, & R. D. Hoffman.* 399, 656, 206-B1 (1992)

WOOTTEN, ALWYN. IRAS 16293−2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

Synthesis Imaging of the DR 21 (OH) Cluster. II. Thermal Ammonia and Water Maser Emission. *Jeffrey G. Mangum, Alwyn Wootten, & Lee G. Mundy.* 388, 467, 56-B6 (1992)

WORTHEY, GUY. Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)

WREN, WILLIAM. See FILIPPENKO, ALEXEI V., et al. The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf?

WRIGHT, E. L. See BENNETT, C. L., et al. *COBE* Differential Microwave Radiometers: Calibration Techniques.

See SMOOT, G. F., et al. Structure in the *COBE* Differential Microwave Radiometer First-Year Maps.

See BENNETT, C. L., et al. Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers.

Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer. *E. L. Wright, S. S. Meyer, C. L. Bennett, N. W. Boggess, E. S. Cheng, M. G. Hauser, A. Kogut, C. Lineweaver, J. C. Mather, G. F. Smoot, R. Weiss, S. Gulkis, G. Hinshaw, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. A. Shafer, R. F. Silverberg, & D. T. Wilkinson.* 396, L13, 160-D1 (1992)

See BOGGESS, N. W., et al. The *COBE* Mission: Its Design and Performance Two Years after Launch.

See KOGUT, A., et al. *COBE* Differential Microwave Radiometers: Preliminary Systematic Error Analysis.

WRIGHT, EDWARD L. An Upper Limit on the Cosmic Ultraviolet Background. *Edward L. Wright.* 391, 34, 86-D11 (1992)

WRIGHT, GILLIAN S. Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)

WRIGHT, MELVYN. High-Resolution Images of Dust Emission from Orion-KL. *Melvyn Wright, Goeran Sandell, David J. Wilner, & Richard L. Plambeck.* 393, 225, 117-A1 (1992)

WRIGHT, MELVYN C. H. A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)

Fine-Scale Structure in the -185 Kilometers per Second Absorption by HCO^+ in the Galactic Center. *Jonathan M. Marr, Alexander L. Rudolph, Thomas A. Pauls, Melvyn C. H. Wright, & Donald C. Backer.* 400, L29, 214-D5 (1992)

WROBEL, J. M. Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

WU, C.-C. Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

WU, CHI-CHAO. Spectral Synthesis in the Ultraviolet. IV. A Library of Mean Stellar Groups. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 82, 197, 52-A1 (1992)

WU, J. X. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

WU, KINWAH. Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)

WU, X. The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

WU, XIAOYI. A Comprehensive X-Ray Study of the Small Magellanic Cloud. *Qingde Wang & Xiaoyi Wu.* 78, 391, 7-G5 (1992)

WU, YUEFANG. Surveys of Dense Cores for High-Velocity Gas. *Yuefang Wu, Shudong Zhou, & Neal J. Evans II.* 394, 196, 130-D9 (1992)

WÜLSER, JEAN-PIERRE. Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

WURTZ, RON. The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

WYCKOFF, S. A Survey of N_2H^+ in Dense Clouds: Implications for Interstellar Nitrogen and Ion-Molecule Chemistry. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 387, 417, 42-B6 (1992)

Estimates of N_2 Abundances in Dense Molecular Clouds. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 393, 188, 116-D6 (1992)

WYCKOFF, SUSAN. NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

Observational Constraints on Solar Nebula Nitrogen Chemistry: N_2/NH_3. *Maria Womack, Susan Wyckoff, & L. M. Ziurys.* 401, 728, 231-E6 (1992)

WYNN-WILLIAMS, C. G. Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)

WYSE, ROSEMARY F. G. The Formation of Giant Low Surface Brightness Galaxies. *Yehuda Hoffman, Joseph Silk, & Rosemary F. G. Wyse.* 388, L13, 52-B6 (1992)

XIE, G. Z. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

XIE, SHUDING. The Determination of Dust Mass in Galaxies. *John Kwan & Shuding Xie.* 398, 105, 183-C7 (1992)

XIE, XINGFA. The Effect of Electron Collisions on Rotational Populations of Cometary Water. *Xingfa Xie & Michael J. Mumma.* 386, 720, 34-C4 (1992)

XING, ZHANG-FAN. An Efficient Method for the Calculation of Mean Extinction. I. The Analyticity of the Complex Extinction Efficiency of Homogeneous Spheres. *Zhang-fan Xing & J. Mayo Greenberg.* 399, 164, 197-C3 (1992)

XU, LANPING. On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. II. Structure, Stability, and Physical Conditions from $C^{18}O$ Observations. *B. E. Turner, Lanping Xu, & L. J Rickard.* 391, 158, 88-A7 (1992)

XU, W. The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

XU, YUEMING. Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

XU, Z. W. Effects of Fe/C Phase Separation on the Ages of White Dwarfs. *Z. W. Xu & H. M. Van Horn.* 387, 662, 47-A1 (1992)

YAHIL, AMOS. A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

The Density Evolution of *IRAS* Galaxies. *Karl B. Fisher, Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 389, 188, 62-C11 (1992)

A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)

A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

YAMADA, T. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

YAMAGAMI, T. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

YAMAGUCHI, K. See MURAKI, Y., et al. Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4.

YAMAMOTO, S. The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

Microwave Spectra and Electric Dipole Moments for Low-*J* Levels of Interstellar Radicals: SO, C_2S, C_3S, c-HC_3, CH_2CC, and c-C_3H_2. *F. J. Lovas, R. D. Suenram, T. Ogata, & S. Yamamoto.* 399, 325, 199-D7 (1992)

YAMAMOTO, SATOSHI. A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)

See HIRAHARA, YASUHIRO, et al. Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1).

See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

YAMAMOTO, T. Extremely Low Thermal Conductivity of Amorphous Ice: Relevance to Comet Evolution. *A. Kouchi, J. M. Greenberg, T. Yamamoto, & T. Mukai.* 388, L73, 59-D9 (1992)

YAMAMURA, I. High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

YAMAOKA, H. The Ring around SN 1987A and Rotation of the Progenitor. *Y. Eriguchi, H. Yamaoka, K. Nomoto, & M. Hashimoto.* 392, 243, 104-A1 (1992)

YAMAOKA, HITOSHI. Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

YAMAOKA, N. See GUNJI, S., et al. A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A.

YAMASHITA, K. See IKEBE, Y., et al. X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies.

A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

YAMASHITA, KOICHI. See KAWAGUCHI, KENTAROU, et al. Detection of HNCCC in TMC-1.

YAMASHITA, KOUJUN. Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)

YAMASHITA, T. See MARTIN, P. G., et al. Interstellar Polarization from 3 to 5 Microns in Reddened Stars.

Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

YAMASHITA, TAKUYA. The Molecular Hydrogen Emission around L1551 IRS 5: Shock- Heated Molecular Gas at the Base of the Molecular Outflow. *Takuya Yamashita & Motohide Tamura.* 387, L93, 48-E5 (1992)

Infrared Morphology of Mass Outflow from GL 2591. *Motohide Tamura & Takuya Yamashita.* 391, 710, 96-G4 (1992)

YAMAUCHI, M. X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

YAN, L. On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)

YANG, JI. A CO Study of Sharpless 171: Evidence for Interaction between the H II Region and Its Neighboring Molecular Cloud. *Ji Yang & Yasuo Fukui.* 386, 618, 33-A8 (1992)

^{13}CO and HCO^+ Observations of *IRAS* Sources in L1641. *Hua Chen, Yasuo Fukui, & Ji Yang.* 398, 544, 190-G12 (1992)

YANG, STEPHENSON L. S. γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)

YANG, WEI-HONG. Self-similar Evolution of Magnetized Plasmas. I. Quasi-static Solution. *Wei-Hong Yang.* 392, 465, 108-B1 (1992)

YANNY, B. The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

YANNY, BRIAN. See MAOZ, DAN, et al. A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*.

Emission-Line Objects near Quasi-stellar Object Absorbers. III. Clustering and Colors of Moderate-Redshift H II Regions. *Brian Yanny & Donald G. York.* 391, 569, 95-A8 (1992)

Hubble Space Telescope Imaging of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, Dan Maoz, Donald P. Schneider, Brian Yanny, & Rodger Doxsey.* 392, L1, 106-A7 (1992)

YEE, H. K. C. Lyα and C IV Narrow-Band Imaging of the Gravitational Lens 2237+030. *H. K. C. Yee & M. M. De Robertis.* 398, L21, 187-D1 (1992)

YEPES, G. On the Dynamical Evolution of Rich Galaxy Clusters. *G. Yepes & R. Domínguez-Tenreiro.* 387, 27, 37-D1 (1992)

Primordial Nucleosynthesis Bounds on the Brans-Dicke Theory. *A. Serna, R. Domínguez-Tenreiro, & G. Yepes.* 391, 433, 93-C4 (1992)

The Scaling Analysis as a Tool to Compare *N*-Body Simulations with Observations: Application to a Low-Bias Cold Dark Matter Model. *G. Yepes, R. Domínguez-Tenreiro, & H. M. P. Couchman.* 401, 40, 221-E3 (1992)

YI, INSU. Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)

YODER, J. T. Detection of the Quadrupole Hyperfine Structure in $HCNH^+$. *L. M. Ziurys, A. J. Apponi, & J. T. Yoder.* 397, L123, 181-F6 (1992)

YORK, D. G. Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)

YORK, DONALD G. Emission-Line Objects near Quasi-stellar Object Absorbers. III. Clustering and Colors of Moderate-Redshift H II Regions. *Brian Yanny & Donald G. York.* 391, 569, 95-A8 (1992)

Observations of Zn II, Cr II, Fe II, and Ca II in the Damped Lyman-Alpha Absorber at $z = 0.692$ toward 3C 286. *David M. Meyer & Donald G. York.* 399, L121, 207-G7 (1992)

YOSHIDA, A. X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

YOSHIDA, HIROSHI. Gravitational Lens Effects on the Density Parameter. *Hiroshi Yoshida & Minoru Omote.* 388, L1, 52-A7 (1992)

YOSHIDA, K. *Ginga* Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

YOSHII, YUZURU. Constraints on the Universe with a Decaying Cosmological Constant from a Number Count of Faint Galaxies. *Yuzuru Yoshii & Katsuhiko Sato.* 387, L7, 43-B1 (1992)

YOSHINO, K. High-Resolution Photoabsorption Cross Sections of $E^1\Pi$–$X^1\Sigma^+$ Vibrational Bands of ^{12}CO and ^{13}CO. *G. Stark, P. L. Smith, K. Ito, & K. Yoshino.* 395, 705, 152-B5 (1992)

YOU, J. H. Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5–1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

YOU, J. Q. What Caused an Unusually Broad He I 10830 Å Emission Line in a Solar Limb Flare? *J. Q. You & G. K. Oertel.* 389, L33, 66-E1 (1992)

YOUNG, ALBERT R. On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

YOUNG, ERICK T. Near-Infrared Observations of Young Stellar Objects in the ρ Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 395, 516, 149-B5 (1992)

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

YOUNG, JUDITH S. Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

YOUNG, K. The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

YU, K. N. Analysis of Soft X-Ray Excesses of Quasi-stellar Objects by Using Their IPC Spectra. *Y. Y. Zhou & K. N. Yu.* 400, 430, 215-F1 (1992)

YU, YUNQIANG. Angular Momentum and Black Hole Formation in Stellar Systems: A Statistical Approach. *Fernando de Felice, Yunqiang Yu, & Guorong Zhou.* 384, 560, 9-B5 (1992)

YUN, JOÃO LIN. Discovery of Outflows from Young Stellar Objects in Bok Globules. *João Lin Yun & Dan P. Clemens.* 385, L21, 17-C6 (1992)

YUNGELSON, LEV R. The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)

YUSEF-ZADEH, F. Comparing Restored *HST* and VLA Imagery of R Aquarii. *J. M. Hollis, J. E. Dorband, & F. Yusef-Zadeh.* 386, 293, 27-G3 (1992)

A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1–0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6–0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

YUSEF-ZADEH, FARHAD. The Bow Shock Structure of IRS 7: Wind-Wind Collision near the Galactic Center. *Farhad Yusef-Zadeh & Fulvio Melia.* 385, L41, 23-B13 (1992)

Gravitational Lensing by a Massive Black Hole at the Galactic Center. *Mark Wardle & Farhad Yusef-Zadeh.* 387, L65, 48-C1 (1992)

ZAGLAUER, HELMUT W. Neutron Stars and Gravitational Scalars. *Helmut W. Zaglauer.* 393, 685, 124-D1 (1992)

ZAITZEV, N. A. Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)

ZAMIR, RAN. A Lower Cutoff in Velocity Distribution: Is It a Threat to Dynamical Friction? *Ran Zamir.* 392, 65, 101-G1 (1992)

ZAMORANI, GIOVANNI. *EXOSAT* X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

Possible Geometric Patterns in 0.1c Scale Structure. *R. Brent Tully, Roberto Scaramella, Giampaolo Vettolani, & Giovanni Zamorani.* 388, 9, 49-B10 (1992)

ZANK, G. P. Wave Diffraction in Weak Cosmic-Ray–modified Shocks. *G. M. Webb & G. P. Zank.* 396, 549, 164-C9 (1992)

ZARGHAM, SHAHROKH. Alfvén Wave Transmission through the Solar Atmosphere. *Philippe L. Similon & Shahrokh Zargham.* 388, 644, 58-C1 (1992)

ZARITSKY, DENNIS. The Radial Distribution of Oxygen in Disk Galaxies. *Dennis Zaritsky.* 390, L73, 84-G7 (1992)

Models for Galaxy Halos in an Open Universe. *Simon D. M. White & Dennis Zaritsky.* 394, 1, 128-B1 (1992)

The Asymmetric Distribution of Satellite Galaxy Velocities. *Dennis Zaritsky.* 400, 74, 209-G12 (1992)

ZARRO, D. M. Impulsive Phase Fe Kα Emission in a Flare of 1989 March. *D. M. Zarro, B. R. Dennis, & G. L. Slater.* 391, 865, 98-F6 (1992)

ZARRO, DOMINIC M. Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

ZASPEL, C. E. Ring Structure in Disk Galaxies. *C. E. Zaspel.* 385, 83, 13-A11 (1992)

Ring Structure in Disk Galaxies: Erratum. *C. E. Zaspel.* 397, 736, 180-C6 (1992) (Orig. paper in 385, 83, 13-A11 (1992))

ZDUNIK, J. L. Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

ZDZIARSKI, ANDRZEJ A. Nonthermal Electron-Positron Pairs and the Break in the Hard X-Ray Spectrum of NGC 4151. *Paolo S. Coppi & Andrzej A. Zdziarski.* 398, L37, 187-F1 (1992)

Reaction Rate and Energy-Loss Rate for Photopair Production by Relativistic Nuclei. *Michał J. Chodorowski, Andrzej A. Zdziarski, & Marek Sikora.* 400, 181, 211-B9 (1992)

ZEILIK, MICHAEL. Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)

ZEILINGER, W. W. The External Origin of the Gas in S0 Galaxies. *F. Bertola, L. M. Buson, & W. W. Zeilinger.* 401, L79, 233-A12 (1992)

ZEIPPEN, C. J. Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)

ZEPF, STEPHEN E. The Formation of Globular Clusters in Merging and Interacting Galaxies. *Keith M. Ashman & Stephen E. Zepf.* 384, 50, 1-F1 (1992)

ZHANG, C. Y. The Spectra of IC 418 and IC 5117 from 1.5 to 1.75 Microns. *C. Y. Zhang & Sun Kwok.* 385, 255, 15-B1 (1992)

ZHANG, H. Q. The Role of Chromospheric Condensations in the Continuum Emission of White-Light Flares. *W. Q. Gan, E. Rieger, H. Q. Zhang, & C. Fang.* 397, 694, 179-F8 (1992)

ZHANG, J. L. Remarks on Triaxiality, Spin-up, and Magnetic Field Obliquity of Some Millisecond Pulsars. *W. Y. Chau, K. S. Cheng, & J. L. Zhang.* 390, 486, 81-D1 (1992)

Effects of Evolving Rotating Equilibrium Configurations on the Cooling and Spin-down of Pulsars. *K. S. Cheng, W. Y. Chau, J. L. Zhang, & H. F. Chau.* 396, 135, 156-G3 (1992)

ZHAO, JUN-HUI. Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)

Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

ZHENG, WEI. Inner Shell of Optically Thin Gas in Active Galactic Nuclei. *Wei Zheng.* 385, 127, 13-E4 (1992)

From Fairall 9 to High-z Objects: Pattern of Change in Ionization Structure. *Wei Zheng, Li-Zhi Fang, & Luc Binette.* 392, 74, 102-A1 (1992)

ZHOU, GUORONG. Angular Momentum and Black Hole Formation in Stellar Systems: A Statistical Approach. *Fernando de Felice, Yunqiang Yu, & Guorong Zhou.* 384, 560, 9-B5 (1992)

ZHOU, SHUDONG. Surveys of Dense Cores for High-Velocity Gas. *Yuefang Wu, Shudong Zhou, & Neal J. Evans II.* 394, 196, 130-D9 (1992)

In Search of Evidence for Protostellar Collapse: A Systematic Study of Line Formation in Low-Mass Dense Cores. *Shudong Zhou.* 394, 204, 130-E4 (1992)

ZHOU, Y. Y. Analysis of Soft X-Ray Excesses of Quasi-stellar Objects by Using Their IPC Spectra. *Y. Y. Zhou & K. N. Yu.* 400, 430, 215-F1 (1992)

ZHU, Y. Y. CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

ZIEGLER, MICHAEL M. Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

ZIJLSTRA, A. A. Discovery of Bipolar OH Maser Emission from the High-Latitude Supergiant Star HD 101584. *P. te Lintel Hekkert, J. M. Chapman, & A. A. Zijlstra.* 390, L23, 78-D9 (1992)

ZIMDAHL, W. Gauge-invariant Cosmological Perturbations in Two Gravitationally Coupled Perfect Fluids. *W. Zimdahl.* 393, 471, 121-F9 (1992)

ZINNER, ERNST. Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

ZIRIN, HAROLD. Detection of "Invisible Sunspots." *Harold Zirin & Haimin Wang.* 385, L27, 17-C12 (1992)

ZITELLI, V. A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

ZIURYS, L. M. The Millimeter-Wave Spectrum of the CaOH Radical ($X\,^2\Sigma^+$). *L. M. Ziurys, W. L. Barclay, Jr., & M. A. Anderson.* 384, L63, 11-E1 (1992)

A Survey of N_2H^+ in Dense Clouds: Implications for Interstellar Nitrogen and Ion-Molecule Chemistry. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 387, 417, 42-B6 (1992)

Estimates of N_2 Abundances in Dense Molecular Clouds. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 393, 188, 116-D6 (1992)

Detection of the Quadrupole Hyperfine Structure in $HCNH^+$. *L. M. Ziurys, A. J. Apponi, & J. T. Yoder.* 397, L123, 181-F6 (1992)

Structure and Kinematics of Dense Gas Associated with the Supernova Remnant IC 443. *R. L. Dickman, Ronald L. Snell, L. M. Ziurys, & Yi-Long Huang.* 400, 203, 211-C9 (1992)

Observational Constraints on Solar Nebula Nitrogen Chemistry: N_2/NH_3. *Maria Womack, Susan Wyckoff, & L. M. Ziurys.* 401, 728, 231-E6 (1992)

ZOONEMATKERMANI, S. Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)

ZUCKERMAN, B. Companions to White Dwarfs: Very Low Mass Stars and the Brown Dwarf Candidate GD 165B. *B. Zuckerman & E. E. Becklin.* 386, 260, 27-D7 (1992)

Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

The Radial Velocity of the White Dwarf Giclas 29-38. *C. Barnbaum & B. Zuckerman.* 396, L31, 160-F1 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)

ZUKOWSKI, EDWIN L. H. Discovery of Extended Faraday Rotation Compatible with Spiral Structure in an Intervening Galaxy at z = 0.395: New Observations of PKS 1229−021. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 387, 528, 45-C1 (1992)

ZUMACH, WILLIAM. Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)

ZUREK, WOJCIECH H. Dark Halos Formed via Dissipationless Collapse. I. Shapes and Alignment of Angular Momentum. *Michael S. Warren, Peter J. Quinn, John K. Salmon, & Wojciech H. Zurek.* 399, 405, 203-A11 (1992)

ZWEIBEL, ELLEN G. Magnetohydrodynamic Waves in Sharply and Smoothly Bounded Cylinders. *Bonnie Jean Shulman & Ellen G. Zweibel.* 389, 428, 65-C1 (1992)

The Effect of Line Tying on Parker's Instability. *Ellen G. Zweibel & David L. Bruhwiler.* 399, 318, 199-C11 (1992)

On the Virial Theorem for Turbulent Molecular Clouds. *Christopher F. McKee & Ellen G. Zweibel.* 399, 551, 204-F7 (1992)

ZYCH, ALLEN D. Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

ZYLSTRA, GREGORY J. Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)
An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)
ŻYTKOW, A. N. The Structure and Evolution of Thorne-Żytkow Objects. *R. C. Cannon, P. P. Eggleton, A. N. Żytkow, & P. Podsiadlowski.* 386, 206, 26-F5 (1992)

SUBJECT HEADING TABLE OF CONTENTS

Acceleration of Particles . . . 129
Accretion, Accretion Disks . . . 129
Artificial Satellites, Space Probes . . . 131
Astrometry . . . 131
Atlases . . . 131
Atmospheric Effects . . . 131
Atomic Data . . . 131
Atomic Processes . . . 132
Black Hole Physics . . . 133
Catalogs . . . 133
Celestial Mechanics, Stellar Dynamics . . . 134
Comets: General . . . 134
Comets: Individual
By Name . . . 134
Conduction . . . 134
Convection . . . 135
Cosmic Strings . . . 135
Cosmology: Cosmic Microwave Background . . . 135
Cosmology: Dark Matter . . . 136
Cosmology: Diffuse Radiation . . . 137
Cosmology: Distance Scale . . . 137
Cosmology: Early Universe . . . 137
Cosmology: Gravitational Lensing . . . 138
Cosmology: Large-Scale Structure of Universe . . . 138
Cosmology: Miscellaneous . . . 139
Cosmology: Observations . . . 140
Cosmology: Theory . . . 140
Dense Matter . . . 142
Diffusion . . . 142
Earth . . . 143
Eclipses . . . 143
Editorials, Notices . . . 143
Elementary Particles . . . 143
Equation of State . . . 143
Errata, Addenda . . . 143
Galaxies: Abundances . . . 144
Galaxies: Active . . . 144
Galaxies: BL Lacertae Objects: General . . . 145
Galaxies: BL Lacertae Objects: Individual
By Name . . . 145
By Alphanumeric Designation . . . 145
Galaxies: Clustering . . . 145
Galaxies: Cooling Flows . . . 147
Galaxies: Distances and Redshifts . . . 148
Galaxies: Elliptical and Lenticular, CD . . . 149
Galaxies: Evolution . . . 149
Galaxies: Formation . . . 150
Galaxies: Fundamental Parameters . . . 151
Galaxies: General . . . 151
Galaxies: Individual
By Messier Number . . . 151
By NGC Number . . . 152
By Name . . . 154
By Alphanumeric Designation . . . 154
Galaxies: Interactions . . . 155
Galaxies: Intergalactic Medium . . . 156
Galaxies: Interstellar Matter . . . 156
Galaxies: Irregular . . . 157
Galaxies: Jets . . . 157
Galaxies: Kinematics and Dynamics . . . 158
Galaxies: Local Group . . . 159
Galaxies: Luminosity Function, Mass Function . . . 159
Galaxies: Magellanic Clouds . . . 160
Galaxies: Nuclei . . . 160
Galaxies: Peculiar . . . 162
Galaxies: Photometry . . . 162
Galaxies: Quasars: Absorption Lines . . . 162
Galaxies: Quasars: Emission Lines . . . 163
Galaxies: Quasars: General . . . 163
Galaxies: Quasars: Individual
By Name . . . 164
By Alphanumeric Designation . . . 164
Galaxies: Seyfert . . . 165
Galaxies: Spiral . . . 167
Galaxies: Starburst . . . 167
Galaxies: Star Clusters . . . 167
Galaxies: Stellar Content . . . 167
Galaxies: Structure . . . 168
Galaxy: Abundances . . . 168
Galaxy: Center . . . 168
Galaxy: Evolution . . . 169
Galaxy: Formation . . . 169
Galaxy: General . . . 169
Galaxy: Globular Clusters: General . . . 169
Galaxy: Globular Clusters: Individual
By Messier Number . . . 169
By NGC Number . . . 170
By Name . . . 170
Galaxy: Halo . . . 170
Galaxy: Kinematics and Dynamics . . . 170
Galaxy: Open Clusters and Associations: General . . . 170
Galaxy: Open Clusters and Associations: Individual
By NGC Number . . . 171
By Name . . . 171
By Alphanumeric Designation . . . 171
Galaxy: Stellar Content . . . 171
Galaxy: Structure . . . 171
Gamma Rays: Bursts . . . 171
Gamma Rays: Observations . . . 172
Gamma Rays: Theory . . . 173
Gravitation . . . 173
Hydrodynamics . . . 173

Infrared: Galaxies . . . 175
Infrared: General . . . 176
Infrared: Interstellar: Continuum . . . 176
Infrared: Interstellar: Lines . . . 176
Infrared: Solar System . . . 176
Infrared: Stars . . . 177
Instabilities . . . 177
Instrumentation: Detectors . . . 178
Instrumentation: Interferometers . . . 178
Instrumentation: Miscellaneous . . . 178
Instrumentation: Photometers . . . 178
Instrumentation: Polarimeters . . . 178
Instrumentation: Spectrographs . . . 178
Interplanetary Medium . . . 178
ISM: Abundances . . . 179
ISM: Atoms . . . 179
ISM: Bubbles . . . 179
ISM: Clouds . . . 180
ISM: Cosmic Rays . . . 180
ISM: Dust, Extinction . . . 181
ISM: General . . . 182
ISM: HII Regions . . . 183
ISM: Individual
By Messier Number . . . 184
By Name . . . 184
By NGC Number . . . 185
By Alphanumeric Designation . . . 185
ISM: Jets and Outflows . . . 187
ISM: Kinematics and Dynamics . . . 187
ISM: Magnetic Fields . . . 188
ISM: Molecules . . . 188
ISM: Planetary Nebulae: General . . . 190
ISM: Planetary Nebulae: Individual
By NGC Number . . . 190
By Alphanumeric Designation . . . 191
ISM: Reflection Nebulae . . . 191
ISM: Structure . . . 191
ISM: Supernova Remnants . . . 191
Line: Formation . . . 192
Line: Identification . . . 193
Line: Profiles . . . 193
Magnetic Fields . . . 194
Magnetohydrodynamics: MHD . . . 194
Masers . . . 196
Meteoroids . . . 197
Methods: Analytical . . . 197
Methods: Data Analysis . . . 197
Methods: Numerical . . . 197
Methods: Statistical . . . 198
Minor Planets . . . 199
Molecular Data . . . 199
Molecular Processes . . . 199
Nuclear Reactions, Nucleosynthesis, Abundances . . . 200
Occultations . . . 201
Planets and Satellites: General . . . 201
Planets and Satellites: Individual
Jupiter . . . 201
Mercury . . . 201
Neptune . . . 201
Saturn . . . 201
Uranus . . . 201
Plasmas . . . 201
Polarization . . . 202
Radiation Mechanisms: Bremsstrahlung . . . 203
Radiation Mechanisms: Compton and Inverse Compton 203
Radiation Mechanisms: Cyclotron and Synchrotron . 203
Radiation Mechanisms: Gravitational . . . 204
Radiation Mechanisms: Miscellaneous . . . 204
Radiation Mechanisms: Thermal . . . 204
Radiative Transfer . . . 204
Radio Continuum: Galaxies . . . 205
Radio Continuum: General . . . 206
Radio Continuum: Interstellar . . . 206
Radio Continuum: Solar System . . . 206
Radio Continuum: Stars . . . 206
Radio Lines: Atomic . . . 207
Radio Lines: Molecular: Circumstellar . . . 207
Radio Lines: Molecular: Interstellar . . . 208
Radio Sources: Lines . . . 208
Radio Sources: 21 cm Radiation . . . 208
Relativity . . . 208
Shock Waves . . . 209
Solar System: Formation . . . 210
Solar System: General . . . 210
Stars: Abundances . . . 210
Stars: Activity . . . 211
Stars: Atmospheres . . . 211
Stars: Binaries: Close . . . 211
Stars: Binaries: Eclipsing . . . 212
Stars: Binaries: General . . . 212
Stars: Binaries: Spectroscopic . . . 213
Stars: Binaries: Symbiotic . . . 213
Stars: Binaries: Visual . . . 213
Stars: Carbon . . . 213
Stars: Chemically Peculiar . . . 214
Stars: Chromospheres . . . 214
Stars: Circumstellar Matter . . . 214
Stars: Coronae . . . 215
Stars: Distances . . . 215
Stars: Early-Type . . . 215
Stars: Emission-Line, Be . . . 216
Stars: Evolution . . . 216
Stars: Flare . . . 217
Stars: Formation . . . 217
Stars: Fundamental Parameters . . . 218
Stars: General . . . 219
Stars: Giant . . . 219
Stars: Hertzsprung-Russell Diagram . . . 219
Stars: Horizontal-Branch . . . 219
Stars: Imaging . . . 219

Stars: Individual
By Constellation Name . . . 219
By Henry Draper Number . . . 222
By Name . . . 223
By Alphanumeric Designation . . . 223
Stars: Interiors . . . 224
Stars: Kinematics . . . 225
Stars: Late-Type . . . 225
Stars: Low-Mass, Brown Dwarfs . . . 226
Stars: Luminosity Function, Mass Function . . . 226
Stars: Magnetic Fields . . . 226
Stars: Mass Loss . . . 226
Stars: Neutron . . . 228
Stars: Novae, Cataclysmic Variables . . . 229
Stars: Oscillations . . . 230
Stars: Planetary Systems . . . 231
Stars: Population II . . . 231
Stars: Post-Asymptotic Giant Branch . . . 231
Stars: Pre–Main-Sequence . . . 231
Stars: Pulsars: General . . . 232
Stars: Pulsars: Individual
By Name . . . 233
By Alphanumeric Designation . . . 233
Stars: Rotation . . . 233
Stars: Statistics . . . 234
Stars: Subdwarfs . . . 234
Stars: Supergiants . . . 234
Stars: Supernovae: General . . . 234
Stars: Supernovae: Individual
By Alphanumeric Designation . . . 235
Stars: Variables: Cepheids . . . 236
Stars: Variables: δ Scuti . . . 236
Stars: Variables: Other
Miscellaneous . . . 236
R Coronae Borealis . . . 237
Long-Period Variables . . . 237
RR Lyrae . . . 237
Stars: White Dwarfs . . . 237
Stars: Wolf-Rayet . . . 238
Sun: Abundances . . . 239
Sun: Activity . . . 239
Sun: Atmosphere . . . 239
Sun: Chromosphere . . . 239
Sun: Corona . . . 239
Sun: Faculae, Flocculi . . . 240
Sun: Flares . . . 240
Sun: General . . . 241
Sun: Granulation . . . 241
Sun: Interior . . . 241
Sun: Magnetic Fields . . . 242
Sun: Oscillations . . . 242
Sun: Particle Emission . . . 243
Sun: Photosphere . . . 243
Sun: Prominences . . . 243
Sun: Radio Radiation . . . 243
Sun: Rotation . . . 243
Sun: Solar Wind . . . 244
Sun: Sunspots . . . 244
Sun: Transition Region . . . 244
Sun: UV Radiation . . . 244
Sun: X-Rays, Gamma Rays . . . 244
Surveys . . . 245
Techniques: Image Processing . . . 246
Techniques: Interferometric . . . 246
Techniques: Photometric . . . 246
Techniques: Radial Velocities . . . 246
Techniques: Spectroscopic . . . 246
Telescopes . . . 247
Turbulence . . . 247
Ultraviolet: Galaxies . . . 247
Ultraviolet: General . . . 247
Ultraviolet: Interstellar . . . 248
Ultraviolet: Solar System . . . 248
Ultraviolet: Stars . . . 248
Videotapes . . . 249
X-Rays: Bursts . . . 249
X-Rays: Galaxies . . . 250
X-Rays: General . . . 251
X-Rays: Interstellar . . . 251
X-Rays: Stars . . . 251

SUBJECT INDEX

ACCELERATION OF PARTICLES

Acoustic Instability in Cosmic-Ray Mediated Shocks. *Hyesung Kang, T. W. Jones, & Dongsu Ryu.* 385, 193, 14-D1 (1992)

Magnetic Acceleration of Broad Emission-Line Clouds in Active Galactic Nuclei. *Robert T. Emmering, Roger D. Blandford, & Isaac Shlosman.* 385, 460, 19-A1 (1992)

The Solar Flare Event on 1990 May 24: Evidence for Two Separate Particle Accelerations. *H. Debrunner, J. A. Lockwood, & J. M. Ryan.* 387, L51, 43-F7 (1992)

π^0-Decay Gamma-Ray Emission from Winds of Massive Stars. *Richard L. White & Wan Chen.* 387, L81, 48-D6 (1992)

Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)

Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. III. General Energy Dependence. *M. S. Potgieter & J. A. Le Roux.* 392, 300, 104-F5 (1992)

Studies of the Low-Energy Galactic Cosmic-Ray Composition near 28 AU at Sunspot Minimum: The Primary-to-Primary Ratios. *W. R. Webber, P. Ferrando, A. Lukasiak, & F. B. McDonald.* 392, L91, 113-F1 (1992)

Constraints on the Acceleration of Anomalous Cosmic Rays. *J. R. Jokipii.* 393, L41, 120-F8 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. I. Interaction with Parallel Transverse Cold Plasma Waves. *Jürgen Steinacker & James A. Miller.* 393, 764, 125-C10 (1992)

A Speckle Hologram of the Interstellar Plasma. *K. M. Desai, C. R. Gwinn, J. Reynolds, E. A. King, D. Jauncey, C. Flanagan, G. Nicolson, R. A. Preston, & D. L. Jones.* 393, L75, 127-E7 (1992)

Effect of Magnetic Helicity upon Rectilinear Propagation of Charged Particles in Random Magnetic Fields. *James A. Earl.* 395, 185, 142-E1 (1992)

Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)

Diffusive Acceleration of Electrons in SN 1987A. *Lewis Ball & J. G. Kirk.* 396, L39, 160-G1 (1992)

Cosmic-Ray–modified Supernova Remnant Shocks. *T. W. Jones & Hyesung Kang.* 396, 575, 164-E9 (1992)

First-Order Fermi Acceleration in Spherically Symmetric Flows: Solutions Including Quadratic Losses. *Peter A. Becker.* 397, 88, 169-B6 (1992)

Stochastic Acceleration of Electrons. I. Effects of Collisions in Solar Flares. *Russell J. Hamilton & Vahé Petrosian.* 398, 350, 186-B5 (1992)

On "High Flyers" in Fermi Acceleration. *Lewis Ball, D. B. Melrose, & C. A. Norman.* 398, L65, 188-B7 (1992)

Kinetic Description of Electron Beams in the Solar Chromosphere. *Daniel O. Gómez & Pablo J. D. Mauas.* 398, 682, 192-E6 (1992)

Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)

A Comparison of Models for Supernova Remnants Including Cosmic Rays. *Hyesung Kang & L. O'C. Drury.* 399, 182, 197-D11 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. II. Implications of Thermal Effects in a Solar Flare Plasma. *James A. Miller & Jürgen Steinacker.* 399, 284, 198-F12 (1992)

Electron Acceleration in Tycho's and Kepler's Supernova Remnants: Spectral Evidence of Fermi Shock Acceleration. *Stephen P. Reynolds & Donald C. Ellison.* 399, L75, 201-B1 (1992)

A Hybrid Thermal/Nonthermal Model for the Energetic Emissions from Solar Flares. *Gordon D. Holman & Stephen G. Benka.* 400, L79, 220-F8 (1992)

Electron Injection in Collisionless Shocks. *Amir Levinson.* 401, 73, 222-A1 (1992)

Radiative Acceleration by Synchrotron Sources. *G. Ghisellini, G. Bodo, & E. Trussoni.* 401, 87, 222-B5 (1992)

The Energy Spectra of Solar Flare Hydrogen, Helium, Oxygen, and Iron: Evidence for Stochastic Acceleration. *J. E. Mazur, G. M. Mason, B. Klecker, & R. E. McGuire.* 401, 398, 226-A5 (1992)

High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

ACCRETION, ACCRETION DISKS

Accretion Flows near Black Holes Mediated by Radiative Viscosity. *Abraham Loeb & Ari Laor.* 384, 115, 2-D10 (1992)

Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

Compton Scattering in a Converging Fluid Flow: Spherical Near-critical Accretion onto Neutron Stars. *Apostolos Mastichiadis & Nikolaos D. Kylafis.* 384, 136, 2-F7 (1992)

The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

The Formation of Coronal Regions in Accretion Disks. *Stephen D. Murray & Douglas N. C. Lin.* 384, 177, 3-B9 (1992)

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)

The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

On Mass-Transfer Rates in Classical Nova Precursors. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 384, 580, 9-D1 (1992)

Spherically Symmetric, Polytropic Flow. *T. Theuns & M. David.* 384, 587, 9-D9 (1992)

Accretion Disks in Active Galactic Nuclei: Vertically Averaged Models. *John K. Cannizzo & Christine M. Reiff.* 385, 87, 13-B1 (1992)

Accretion Disks in Active Galactic Nuclei: Vertically Explicit Models. *John K. Cannizzo.* 385, 94, 13-B9 (1992)

Eclipse Studies of the Dwarf Nova HT Cassiopeiae. II. White Dwarf and Accretion Disk. *Janet H. Wood, Keith Horne, & Stephane Vennes.* 385, 294, 15-E6 (1992)

Radiation Dynamics in X-Ray Binaries. I. Type 1 Bursts. *Mark A. Walker.* 385, 642, 21-B1 (1992)

Radiation Dynamics in X-Ray Binaries. II. Type 2 Bursts. *Mark A. Walker.* 385, 651, 21-B12 (1992)

Radiation Dynamics in X-Ray Binaries. III. Extremely Compact Objects. *Mark A. Walker.* 385, 661, 21-C10 (1992)

Classical Nova Models with Accretion Heating at Accretion Rates of 10^{-9} and 10^{-10} $M_\odot$ per Year. *Dina Prialnik & Attay Kovetz.* 385, 665, 21-D1 (1992)

Infrared Observations and Thermal Models of the β Pictoris Disk. *D. E. Backman, F. C. Gillett, & F. C. Witteborn.* 385, 670, 21-D8 (1992)

The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)

Magnetic Interchange Instability of Accretion Disks. *M. Kaisig, T. Tajima, & R. V. E. Lovelace.* 386, 83, 25-B7 (1992)

Balmer Line Profiles for Infalling T Tauri Envelopes. *Nuria Calvet & Lee Hartmann.* 386, 239, 27-B8 (1992)

The Secondary Outburst Maximum of T Coronae Borealis: Implications for the Physics of Accretion Disks. *John K. Cannizzo & Scott J. Kenyon.* 386, L17, 29-C7 (1992)

Accretion in a Kerr Black Hole Magnetosphere: Energy and Angular Momentum Transport between the Magnetic Field and the Matter. *Kouichi Hirotani, Masaaki Takahashi, Shin-ya Nitta, & Akira Tomimatsu.* 386, 455, 31-A11 (1992)

On the Power Spectra of the Wind-fed X-Ray Binary Pulsar GX 301−2. *Mauro Orlandini & G. E. Morfill.* 386, 703, 34-A9 (1992)
Consequences of the Star-Stream Interaction in Algol. *Mercedes T. Richards.* 387, 329, 41-A12 (1992)
Standing Shocks in Accretion Disks and the Spectra of Active Galactic Nuclei. *Sandip K. Chakrabarti & Paul J. Wiita.* 387, L21, 43-C4 (1992)
10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)
Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)
Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)
Convective Instability in Differentially Rotating Disks. *Dongsu Ryu & Jeremy Goodman.* 388, 438, 55-F12 (1992)
The Stability of Accretion Tori. IV. Fission and Fragmentation of Slender, Self-gravitating Annuli. *Dimitris M. Christodoulou & Ramesh Narayan.* 388, 451, 56-A1 (1992)
Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)
Energy Dependence of Normal Branch Quasi-periodic Intensity Oscillations in Low-Mass X-Ray Binaries. *Guy S. Miller & Frederick K. Lamb.* 388, 541, 57-A5 (1992)
CNO Destruction by Spallation and Type I X-Ray Bursts. *Jason C. Tillett & James MacDonald.* 388, 555, 57-B7 (1992)
Self-gravitating Thin Disks around Rapidly Rotating Black Holes. *Antonio Lanza.* 389, 141, 61-G1 (1992)
On the Pulsations of Relativistic Accretion Disks and Rotating Stars: The Cowling Approximation. *James R. Ipser & Lee Lindblom.* 389, 392, 64-G1 (1992)
H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)
Spectral Evolution of Accretion Disks of Dwarf Novae. III. Outburst Cycle of SS Cygni. *F. H. Cheng & D. N. C. Lin.* 389, 714, 70-C5 (1992)
Intrinsically Asymmetric Astrophysical Jets. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 390, 46, 74-F1 (1992)
Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)
Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)
Spiral Shocks and Subday Variability in SS 433. *Sandip K. Chakrabarti & T. Matsuda.* 390, 639, 83-C1 (1992)
What Drives the Mass Transfer in Cygnus X-3? *Abhas Mitra.* 390, 645, 83-C8 (1992)
Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)
X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)
Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)
On the Interpretation of the Spectrum of FU Orionis. *P. P. Petrov & G. H. Herbig.* 392, 209, 103-E1 (1992)
Turbulent Convection with Overshooting: Reynolds Stress Approach. *V. M. Canuto.* 392, 218, 103-F1 (1992)
Geometrically Thin, Hot Accretion Disks: Topology of the Thermal Equilibrium Curves. *Masaaki Kusunose & Shin Mineshige.* 392, 653, 110-D1 (1992)
Is the Oort *A*-Value a Universal Growth Rate Limit for Accretion Disk Shear Instabilities? *Steven A. Balbus & John F. Hawley.* 392, 662, 110-D12 (1992)
The Evolution of Intermediate-Mass Protostars. II. Influence of the Accretion Flow. *Francesco Palla & Steven W. Stahler.* 392, 667, 110-E5 (1992)
Minimum Mass for D and H Burning during Slow Accretion. *E. E. Salpeter.* 393, 258, 117-C12 (1992)
Diskoseismology: Probing Accretion Disks. II. *G*-Modes, Gravitational Radiation Reaction, and Viscosity. *Michael A. Nowak & Robert V. Wagoner.* 393, 697, 124-E1 (1992)
Swinging Spiral Waves and Alfvén Turbulence in Accretion Disks. *M. Tagger, R. Pellat, & F. V. Coroniti.* 393, 708, 124-F1 (1992)
Eclipse Maps of the Accretion Disk in the Classical Nova V Persei. *Janet H. Wood, Timothy M. C. Abbott, & Allen W. Shafter.* 393, 729, 124-G10 (1992)
Tidal Disruption of a Star by a Massive Disk (The Axisymmetric Roche Problem). *John W. Woodward, Srivaths Sankaran, & Joel E. Tohline.* 394, 248, 131-B1 (1992)
Supersonic Infall and Causality in Accretion Disk Boundary Layers. *Robert Popham & Ramesh Narayan.* 394, 255, 131-B10 (1992)
A Flux-limited Model of Particle Diffusion and Viscosity. *Ramesh Narayan.* 394, 261, 131-C3 (1992)
The Role of the Dwarf Nova Period Distribution in Understanding the Evolution of Cataclysmic Variables. *Allen W. Schafter.* 394, 268, 131-C12 (1992)
Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5−1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)
Hot Pair-dominated Accretion Disks. *Gunnlaugur Björnsson & Roland Svensson.* 394, 500, 135-E9 (1992)
Prevention of Accretion onto White Dwarfs by Stellar Winds. *James MacDonald.* 394, 619, 137-B8 (1992)
The Binary System L151−81A/B: A Potential Test of Accretion Theory. *M. A. Wood & T. D. Oswalt.* 394, L53, 139-D1 (1992)
VLBI Observations of the X-Ray Binary LS I +61°303. *A. R. Taylor, H. T. Kenny, R. E. Spencer, & A. Tzioumis.* 395, 268, 143-D11 (1992)
An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)
Linear Stability Analysis of Spherical Accretion Flows onto Compact Objects. *John C. Houck & Roger A. Chevalier.* 395, 592, 150-D1 (1992)
Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)
A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)
Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)
Dynamical Stability of Two-dimensional Accretion Flows: An Analytic Study. *Omri Gat & Mario Livio.* 396, 542, 164-C1 (1992)
Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)
Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)
Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)
Two-dimensional Viscous Accretion Disk Models. I. On Meridional Circulations in Radiative Regions. *W. Kley & D. N. C. Lin.* 397, 600, 178-D13 (1992)
Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)
An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)
Tidally Driven Inclination Instability in Keplerian Disks. *Stephen H. Lubow.* 398, 525, 190-F3 (1992)

Local Magnetohydrodynamic Instabilities and the Wave-driven Dynamo in Accretion Disks. *Ethan T. Vishniac & Patrick Diamond.* 398, 561, 191-B5 (1992)

^{26}Al and Time Scales of the Solar Nebula. *Kurt Liffman.* 398, L111, 144-F1 (1992)

Near-resonant Excitation and Propagation of Eccentric Density Waves by External Forcing. *Eve C. Ostriker, Frank H. Shu, & Fred C. Adams.* 399, 192, 197-E13 (1992)

On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)

Cool Mass-losing Boundary Layers of T Tauri Accretion Disks. *Claude Bertout & Oded Regev.* 399, L163, 208-E1 (1992)

Accretion Disk Self-Eclipse: X-Ray Light Curve and Emission Line. *G. Bao & Z. Stuchlik.* 400, 163, 211-A1 (1992)

Importance of Synchrotron Cooling in Self-consistent Spherical Accretion Models. *A. Mason & R. Turolla.* 400, 170, 211-A10 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. III. Long-Term Evolution in a Shearing Sheet. *John F. Hawley & Steven A. Balbus.* 400, 595, 217-F12 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. IV. Nonaxisymmetric Perturbations. *Steven A. Balbus & John F. Hawley.* 400, 610, 218-A1 (1992)

Dynamics of Eccentric Disks with Application to Superhump Binaries. *Stephen H. Lubow.* 401, 317, 225-A1 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

A Binary Origin for FU Orionis Stars. *Ian Bonnell & Pierre Bastien.* 401, L31, 227-E1 (1992)

High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

General Relativistic Structure of Star-Toroid Systems. *Shogo Nishida, Yoshiharu Eriguchi, & Antonio Lanza.* 401, 618, 230-C1 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

On the Long-Term Behavior of SS Cygni. *John K. Cannizzo & Janet A. Mattei.* 401, 642, 230-E1 (1992)

Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

ARTIFICIAL SATELLITES, SPACE PROBES

Preliminary Results of a Balloon Flight of the Solar Disk Sextant. *E. Maier, L. Twigg, & S. Sofia.* 389, 447, 65-D11 (1992)

Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE*. *R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission. *Arthur F. Davidsen, Knox S. Long, Samuel T. Durrance, William P. Blair, Charles W. Bowers, Steven J. Conard, Paul D. Feldman, Henry C. Ferguson, Glen H. Fountain, Randy A. Kimble, Gerard A. Kriss, H. Warren Moos, & Kenneth A. Potocki.* 392, 264, 104-C1 (1992)

The Case for Liquid Mirrors in Orbiting Telescopes. *Ermanno F. Borra.* 392, 375, 105-E7 (1992)

The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

Detection of Fundamental and Harmonic Type III Radio Emission and the Associated Langmuir Waves at the Source Region. *M. J. Reiner, R. G. Stone, & J. Fainberg.* 394, 340, 132-B12 (1992)

The Ultraviolet Imaging Telescope: Design and Performance. *Theodore P. Stecher, Gerald R. Baker, Donna D. Bartoe, Frank H. Bauer, Albert Blum, Ralph C. Bohlin, Harvey R. Butcher, Peter C. Chen, Nicholas R. Collins, Robert H. Cornett, John J. Deily, Michael R. Greason, Gregory S. Hennessy, Jesse K. Hill, Robert S. Hill, Paul M. Hintzen, Joan E. Isensee, Peter J. Kenny, Wayne B. Landsman, David L. Linard, Stephen P. Maran, Susan G. Neff, Granville R. Nichols, Joseph Novello, Robert W. O'Connell, Joel D. Offenberg, Ronald A. Parise, Barbara B. Pfarr, Thomas B. Plummer, Foy F. Richardson, Morton S. Roberts, Susan D. Sitko, Andrew M. Smith, Alfred K. Stober, John D. Stolarik, & Jack C. Tebay.* 395, L1, 144-C7 (1992)

The *COBE* Mission: Its Design and Performance Two Years after Launch. *N. W. Boggess, J. C. Mather, R. Weiss, C. L. Bennett, E. S. Cheng, E. Dwek, S. Gulkis, M. G. Hauser, M. A. Janssen, T. Kelsall, S. S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, R. F. Silverberg, G. F. Smoot, D. T. Wilkinson, & E. L. Wright.* 397, 420, 175-G11 (1992)

COBE Differential Microwave Radiometers: Preliminary Systematic Error Analysis. *A. Kogut, G. F. Smoot, C. L. Bennett, E. L. Wright, J. Aymon, G. De Amici, G. Hinshaw, P. D. Jackson, E. Kaita, P. Keegstra, C. Lineweaver, K. Loewenstein, L. Rokke, L. Tenorio, N. W. Boggess, E. S. Cheng, S. Gulkis, M. G. Hauser, M. A. Janssen, T. Kelsall, J. C. Mather, S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, R. F. Silverberg, R. Weiss, & D. T. Wilkinson.* 401, 1, 221-B1 (1992)

ASTROMETRY

A Complete, Multicolor Survey of Absolute Proper Motions to $B \sim 22.5$: Galactic Structure and Kinematics at the North Galactic Pole. *Steven Raymond Majewski.* 78, 87, 2-F11 (1992)

Extending the Macho Search to $\sim 10^6\ M_\odot$. *Andrew Gould.* 392, 442, 107-G1 (1992)

Catalog-to-Catalog Reductions: Results for the FK, N30, and GC Catalogs. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 392, 746, 111-E9 (1992)

Mid-Infrared Imaging of Orion BN/KL: Astrometry of IRc2 and the SiO Maser. *Daniel Y. Gezari.* 396, L43, 160-G8 (1992)

First Orbits for the Visual Double Stars WDS 00516N2238, WDS 17366N0722, WDS 17563N0259, and WDS 23020N4800. *J. A. Docobo & J. M. Costa.* 82, 323, 53-G7 (1992)

ATLASES

A Spectrophotometric Atlas of Galaxies. *Robert C. Kennicutt, Jr.* 79, 255, 17-F7 (1992)

An X-Ray Catalog and Atlas of Galaxies. *G. Fabbiano, D.-W. Kim, & G. Trinchieri.* 80, 531, 31-A11 (1992)

A Compendium of Radio Spectra and Luminosities for Three Complete Samples of Radio Sources. *T. Herbig & A. C. S. Readhead.* 81, 83, 36-B11 (1992)

A New Library of Stellar Optical Spectra. *David R. Silva & Mark E. Cornell.* 81, 865, 48-A9 (1992)

Spectral Synthesis in the Ultraviolet. IV. A Library of Mean Stellar Groups. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 82, 197, 52-A1 (1992)

ATMOSPHERIC EFFECTS

First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network. *M. Lloyd-Hart, P. Wizinowich, B. McLeod, D. Wittman, D. Colucci, R. Dekany, D. McCarthy, J. R. P. Angel, & D. Sandler.* 390, L41, 78-F8 (1992)

Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

ATOMIC DATA

Toward a Resolution of the Bump and Beat Cepheid Mass Discrepancies. *Paweł Moskalik, J. Robert Buchler, & Ariel Marom.* 385, 685, 21-E13 (1992)

Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)

Interior Opacities and the Standard Solar Model. *John Faulkner & Fritz J. Swenson.* 386, L55, 36-D1 (1992)

The Oscillator Strength of the Si II $3s^2 3p\ ^2P$–$3s 3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

Improved Calculations for the C III λλ1907,1909 and Si III λλ1883,1892 Electron Density Sensitive Emission-Line Ratios, and a Compari-

son with *IUE* Observations. *F. P. Keenan, W. A. Feibelman, & K. A. Berrington.* 389, 443, 65-D5 (1992)

Radiative Atomic Rosseland Mean Opacity Tables. *Forrest J. Rogers & Carlos A. Iglesias.* 79, 507, 20-G11 (1992)

L-Shell X-Ray Opacity of Many-Electron Atoms. *Young-Dae Jung & Robert J. Gould.* 391, 403, 91-A7 (1992)

Collision Strengths and Excitation Rate Coefficients for Transitions in Ca XV. *K. M. Aggarwal.* 80, 453, 28-F3 (1992)

Solar Opacities Based on the Ion-Sphere and Ion-Correlation Models. *Balazs F. Rozsnyai.* 393, 409, 119-C1 (1992)

Analytical Cross Sections and Rate Coefficients for H-H Inelastic Collisions. *W. H. Soon.* 394, 717, 138-D6 (1992)

Lithium Dilution through Main-Sequence Mass Loss. *Fritz J. Swenson & John Faulkner.* 395, 654, 151-D3 (1992)

Spin-Orbit Interaction Effects on the Rosseland Mean Opacity. *Carlos A. Iglesias, Forrest J. Rogers, & Brian G. Wilson.* 397, 717, 180-A7 (1992)

New Results for Photoionization and Recombination of Astrophysically Abundant Atoms and Ions: The Carbon Sequence. *Sultana N. Nahar & Anil K. Pradhan.* 397, 729, 180-B10 (1992)

Dielectronic Recombination as a Function of Electric Field Strength. *Daniel B. Reisenfeld.* 398, 386, 186-E9 (1992)

Iron Ionization and Recombination Rates and Ionization Equilibrium. *M. Arnaud & J. Raymond.* 398, 394, 186-F5 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

On the Calculation of Atomic Term Populations. *S. O. Kastner & A. K. Bhatia.* 398, 698, 192-F11 (1992)

Photoelectric Absorption Cross Sections with Variable Abundances. *Monika Bałucińska-Church & Dan McCammon.* 400, 699, 219-B11 (1992)

Rosseland Mean Opacities for Variable Compositions. *Forrest J. Rogers & Carlos A. Iglesias.* 401, 361, 225-E1 (1992)

Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)

Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

ATOMIC PROCESSES

The Zeeman Effect in Astrophysical Water Masers and the Observation of Strong Magnetic Fields in Regions of Star Formation. *Gerald E. Nedoluha & William D. Watson.* 384, 185, 3-C5 (1992)

Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)

Fe II Emission Lines. II. Excitation Mechanisms in Cool Stars. *P. G. Judge, C. Jordan, & U. Feldman.* 384, 613, 9-F10 (1992)

Al II Emission-Line Strengths in Low-Density Astrophysical Plasmas. *F. P. Keenan, L. K. Harra, K. M. Aggarwal, & W. A. Feibelman.* 385, 375, 16-E1 (1992)

Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)

Transitions from Metastable Levels Emitted during Short-Duration Bursts: How Valid Are Their Calculated Intensities? *Uri Feldman.* 385, 758, 22-E1 (1992)

Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)

The Effect of Electron Collisions on Rotational Populations of Cometary Water. *Xingfa Xie & Michael J. Mumma.* 386, 720, 34-C4 (1992)

Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

The Oscillator Strength of the Si II $3s^2 3p\ ^2P$–$3s3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)

A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)

The Optically Thick C III Spectrum. I. Term Populations and Multiplet Intensities at Lower Optical Depths. *A. K. Bhatia & S. O. Kastner.* 79, 139, 14-G3 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

What Caused an Unusually Broad He I 10830 Å Emission Line in a Solar Limb Flare? *J. Q. You & G. K. Oertel.* 389, L33, 66-E1 (1992)

On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

N III Line Emission in Planetary Nebulae: Continuum Fluorescence. *G. J. Ferland.* 389, L63, 73-D1 (1992)

Radiative Atomic Rosseland Mean Opacity Tables. *Forrest J. Rogers & Carlos A. Iglesias.* 79, 507, 20-G11 (1992)

Spectrophotometry of Bowen Resonance Fluorescence Lines in Three Planetary Nebulae. *C. R. O'Dell & Christopher O. Miller.* 390, 219, 76-F4 (1992)

Gamma-Ray Deposition and Nonthermal Excitation in Supernovae. *Cecilia Kozma & Claes Fransson.* 390, 602, 82-G1 (1992)

X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)

Rate Coefficients for the Excitation of Infrared and Ultraviolet Lines in C II, N III, and O IV. *Robert D. Blum & Anil K. Pradhan.* 80, 425, 28-C11 (1992)

Excitation Rate Coefficients for Transitions among the $n = 1$, 2, and 3 Levels of He^+. *K. M. Aggarwal, J. Callaway, A. E. Kingston, & K. Unnikrishnan.* 80, 473, 28-G13 (1992)

Electron Impact Polarization of Atomic Spectral Lines. I. A General Theoretical Scheme. *Silvano Fineschi & Egidio Landi Degl'Innocenti.* 392, 337, 105-B6 (1992)

On the Use of Forbidden Lines as Density Diagnostics in Stratified Media. *Pedro N. Safier.* 392, 492, 108-D5 (1992)

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

Ortho-para–Hydrogen Equilibration on Jupiter. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 393, 357, 118-E6 (1992)

X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)

Analytical Cross Sections and Rate Coefficients for H-H Inelastic Collisions. *W. H. Soon.* 394, 717, 138-D6 (1992)

Maximum Principal Quantum Numbers of the Atomic Hydrogen in the Solar Chromosphere and Photosphere. *J. A. Kunc & W. H. Soon.* 396, 364, 159-E11 (1992)

A Simple Correction for the Born Approximation for Electron Impact Excitation of Hydrogenic Ions. *Young-Dae Jung.* 396, 725, 166-C11 (1992)

Spin-Orbit Interaction Effects on the Rosseland Mean Opacity. *Carlos A. Iglesias, Forrest J. Rogers, & Brian G. Wilson.* 397, 717, 180-A7 (1992)

New Results for Photoionization and Recombination of Astrophysically Abundant Atoms and Ions: The Carbon Sequence. *Sultana N. Nahar & Anil K. Pradhan.* 397, 729, 180-B10 (1992)

Dielectronic Recombination as a Function of Electric Field Strength. *Daniel B. Reisenfeld.* 398, 386, 186-E9 (1992)

Iron Ionization and Recombination Rates and Ionization Equilibrium. *M. Arnaud & J. Raymond.* 398, 394, 186-F5 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

On the Calculation of Atomic Term Populations. *S. O. Kastner & A. K. Bhatia.* 398, 698, 192-F11 (1992)

Heating the Warm Ionized Medium. *R. J. Reynolds & D. P. Cox.* 400, L33, 214-D10 (1992)

Rosseland Mean Opacities for Variable Compositions. *Forrest J. Rogers & Carlos A. Iglesias.* 401, 361, 225-E1 (1992)

Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)

Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

Photon Escape Probabilities from Resolved Sources: Application to Solar C III Limb Emission. *S. O. Kastner & A. K. Bhatia.* 401, 416, 226-C1 (1992)

BLACK HOLE PHYSICS

Accretion Flows near Black Holes Mediated by Radiative Viscosity. *Abraham Loeb & Ari Laor.* 384, 115, 2-D10 (1992)

A Reanalysis of the Orbital Inclination of Cygnus XR-1 Determined Polarimetrically. *Joseph F. Dolan.* 384, 249, 4-A9 (1992)

Angular Momentum and Black Hole Formation in Stellar Systems: A Statistical Approach. *Fernando de Felice, Yunqiang Yu, & Guorong Zhou.* 384, 560, 9-B5 (1992)

Accretion Disks in Active Galactic Nuclei: Vertically Averaged Models. *John K. Cannizzo & Christine M. Reiff.* 385, 87, 13-B1 (1992)

Accretion Disks in Active Galactic Nuclei: Vertically Explicit Models. *John K. Cannizzo.* 385, 94, 13-B9 (1992)

Gas Clouds from Tidally Disrupted Stars in Active Galactic Nuclei. *Nico Roos.* 385, 108, 13-C11 (1992)

The Optical Variability of PKS 2155–304. *Michael T. Carini & H. Richard Miller.* 385, 146, 13-G1 (1992)

Variability of the Galactic Center in the Hard X-Ray Range. *A. Bazzano, C. La Padula, P. Ubertini, & R. K. Sood.* 385, L17, 17-C1 (1992)

Magnetic Acceleration of Broad Emission-Line Clouds in Active Galactic Nuclei. *Robert T. Emmering, Roger D. Blandford, & Isaac Shlosman.* 385, 460, 19-A1 (1992)

Radiation Dynamics in X-Ray Binaries. III. Extremely Compact Objects. *Mark A. Walker.* 385, 661, 21-C10 (1992)

Accretion in a Kerr Black Hole Magnetosphere: Energy and Angular Momentum Transport between the Magnetic Field and the Matter. *Kouichi Hirotani, Masaaki Takahashi, Shin-ya Nitta, & Akira Tomimatsu.* 386, 455, 31-A11 (1992)

Standing Shocks in Accretion Disks and the Spectra of Active Galactic Nuclei. *Sandip K. Chakrabarti & Paul J. Wiita.* 387, L21, 43-C4 (1992)

An Accreting Black Hole Model for Sagittarius A*. *Fulvio Melia.* 387, L25, 43-C10 (1992)

Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339–4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)

Self-gravitating Thin Disks around Rapidly Rotating Black Holes. *Antonio Lanza.* 389, 141, 61-G1 (1992)

X-Ray Nova in Musca (GRS 1124–68): Hard X-Ray Source with Narrow Annihilation Line. *R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, S. Grebenev, R. Kremnev, K. Sukhanov, A. Goldwurm, J. Ballet, B. Cordier, J. Paul, M. Denis, G. Vedrenne, M. Niel, & E. Jourdain.* 389, L75, 73-E1 (1992)

Periodic Variability in the Optical Counterpart of X-Ray Nova Muscae 1991. *Charles D. Bailyn.* 391, 298, 89-F1 (1992)

Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

Cosmic Gamma-Ray Bursts from Black Hole Tidal Disruption of Stars? *Brandon Carter.* 391, L67, 99-D13 (1992)

SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524–62). *D. Barret, J. P. Roques, P. Mandrou, L. Bouchet, F. Lebrun, A. Goldwurm, P. Laurent, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Kavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 392, L19, 106-C7 (1992)

Geometrically Thin, Hot Accretion Disks: Topology of the Thermal Equilibrium Curves. *Masaaki Kusunose & Shin Mineshige.* 392, 653, 110-D1 (1992)

On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)

Hot Pair-dominated Accretion Disks. *Gunnlaugur Björnsson & Roland Svensson.* 394, 500, 135-E9 (1992)

Discovery and X-Ray Properties of GS 1124–683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)

Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)

The Nucleus of M31. *Fulvio Melia.* 398, L95, 194-C8 (1992)

Populations of Low-Mass Black Hole Binaries. *Roger W. Romani.* 399, 621, 205-F1 (1992)

Evidence for a Black Hole in the X-Ray Binary Nova Muscae 1991. *Ronald A. Remillard, Jeffrey E. McClintock, & Charles D. Bailyn.* 399, L145, 208-C7 (1992)

Accretion Disk Self-Eclipse: X-Ray Light Curve and Emission Line. *G. Bao & Z. Stuchlik.* 400, 163, 211-A1 (1992)

Importance of Synchrotron Cooling in Self-consistent Spherical Accretion Models. *A. Mason & R. Turolla.* 400, 170, 211-A10 (1992)

Tidal Interactions of Inspiraling Compact Binaries. *Lars Bildsten & Curt Cutler.* 400, 175, 211-B1 (1992)

Possibility of Unique Detection of Primordial Black Hole Gamma-Ray Bursts. *David B. Cline & Woopyo Hong.* 401, L57, 232-F3 (1992)

Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

CATALOGS

A Catalog of Co-added *IRAS* Fluxes of Orion Population Stars. *Wm. Bruce Weaver & Gordon Jones.* 78, 239, 4-G7 (1992)

Systematic QSO Emission-Line Velocity Shifts and New Unbiased Redshifts. *David Tytler & Xiao-Ming Fan.* 79, 1, 12-B1 (1992)

A New Catalog of 30,239 1.4 GHz Sources. *Richard L. White & Robert H. Becker.* 79, 331, 18-G9 (1992)

Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

Catalog-to-Catalog Reductions: Results for the FK, N30, and GC Catalogs. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 392, 746, 111-E9 (1992)

An X-Ray Catalog and Atlas of Galaxies. *G. Fabbiano, D.-W. Kim, & G. Trinchieri.* 80, 531, 31-A11 (1992)

An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

A Catalog of Faint A, F, and G Stars at the South Galactic Pole. *Phillip K. Lu, Jeffrey Miller, & Donald Platt.* 83, 203, 59-E3 (1992)

CELESTIAL MECHANICS, STELLAR DYNAMICS

Relaxation-driven Binary Mergers. *Sergio Gelato, David F. Chernoff, & Ira Wasserman.* 384, 15, 1-C1 (1992)

The Orbital Structure of Galactic Halos. *Joanna F. Lees & M. Schwarzschild.* 384, 491, 8-C1 (1992)

Angular Momentum and Black Hole Formation in Stellar Systems: A Statistical Approach. *Fernando de Felice, Yunqiang Yu, & Guorong Zhou.* 384, 560, 9-B5 (1992)

Two-Component Gravitating Systems and Red Giant–like Structure. *Masayuki Y. Fujimoto & Kohji Tomisaka.* 385, 445, 18-F10 (1992)

The Dynamical Evolution of Tidal Capture Binaries. *Christopher S. Kochanek.* 385, 604, 20-E13 (1992)

Projections of Box-shaped Galaxies. *Barbara S. Ryden.* 386, 42, 24-E10 (1992)

A New Tidal Model of the Magellanic Stream. *W. L. H. Shuter.* 386, 101, 25-D1 (1992)

Fokker-Planck Models and Globular Cluster Evolution: The Problem of M71. *G. A. Drukier, G. G. Fahlman, & H. B. Richer.* 386, 106, 25-D7 (1992)

A Self-consistent Field Method for Galactic Dynamics. *Lars Hernquist & Jeremiah P. Ostriker.* 386, 375, 30-B6 (1992)

Tidal Evolution of Globular Clusters. I. Method. *K. S. Oh, D. N. C. Lin, & S. J. Aarseth.* 386, 506, 31-F4 (1992)

Tidal Evolution of Globular Clusters. II. The Effects of Galactic Tidal Field and Diffusion. *K. S. Oh & D. N. C. Lin.* 386, 519, 31-G5 (1992)

Peculiar Velocities of Field Spiral Galaxies near and beyond the Great Attractor. *Gregory D. Bothun, Robert A. Schommer, T. B. Williams, Jeremy R. Mould, & J. P. Huchra.* 388, 253, 53-D10 (1992)

Equilibrium Stellar Systems with Spindle Singularities. *Stuart L. Shapiro & Saul A. Teukolsky.* 388, 287, 53-G10 (1992)

Triaxial Galaxy Models with Thin Tube Orbits. *C. Hunter & P. T. de Zeeuw.* 389, 79, 61-B1 (1992)

A Rotating Stäckel Potential. *G. Contopoulos & Peter O. Vandervoort.* 389, 118, 61-E1 (1992)

The Evolution of a Primordial Binary Population in a Globular Cluster. *Piet Hut, Steve McMillan, & Roger W. Romani.* 389, 527, 68-A8 (1992)

Three-dimensional Hydrodynamical Simulations of Colliding Stars. III. Collisions and Tidal Captures of Unequal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 389, 546, 68-C8 (1992)

Close Encounters in Coulomb and Gravitational Scattering. I. Relaxation of Isotropic Test-Particle Distributions by Like-Particle Collisions. *Edward C. Shoub.* 389, 558, 68-D8 (1992)

Kinematics and Age of RS Canum Venaticorum and BY Draconis Stars. *Zeki Eker.* 79, 481, 20-E9 (1992)

The Continuum Model in Astrophysics. *Richard L. Liboff.* 390, 1, 74-B1 (1992)

Dynamical Friction from Fluctuations in Stellar Dynamical Systems. *Jacob D. Bekenstein & Eyal Maoz.* 390, 79, 75-A10 (1992)

Possible Observational Consequences of Primordial Binaries in Globular Clusters. *Ronald E. Taam & D. N. C. Lin.* 390, 440, 80-G6 (1992)

Collision and Tidal Interaction between Planetesimals. *Sei-ichiro Watanabe & Shoken M. Miyama.* 391, 318, 89-G11 (1992)

Inferring the Mass of Spherical Stellar Systems from Velocity Moments. *Herwig Dejonghe & David Merritt.* 391, 531, 94-E6 (1992)

Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

A Lower Cutoff in Velocity Distribution: Is It a Threat to Dynamical Friction? *Ran Zamir.* 392, 65, 101-G1 (1992)

The Evolutionary History of the Interacting Galaxy System NGC 7714/7715 (Arp 284). *Beverly J. Smith & John F. Wallin.* 393, 544, 122-E7 (1992)

The Potential Energy Tensors for Subsystems. *R. Caimmi & L. Secco.* 395, 119, 141-E11 (1992)

Stability of Scale-invariant Nonlinear Gravitational Clustering. *Laddawan Ruamsuwan & J. N. Fry.* 396, 416, 162-F1 (1992)

Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

Mass Segregation, Relaxation, and the Coulomb Logarithm in *N*-Body Systems. *Haywood Smith, Jr.* 398, 519, 190-E10 (1992)

Tidally Driven Inclination Instability in Keplerian Disks. *Stephen H. Lubow.* 398, 525, 190-F3 (1992)

Cold Dissipationless Collapse of Spherical Systems: Sensitivity to the Initial Density Law. *John K. Cannizzo & Timothy C. Hollister.* 400, 58, 209-F6 (1992)

Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

Stellar Encounters Involving Neutron Stars in Globular Cluster Cores. *M. B. Davies, W. Benz, & J. G. Hills.* 401, 246, 224-B1 (1992)

COMETS: GENERAL

The Contribution of Methanol to the 3.4 Micron Emission Feature in Comets. *Dennis C. Reuter.* 386, 330, 28-C11 (1992)

Crystallization, Sublimation, and Gas Release in the Interior of a Porous Comet Nucleus. *Dina Prialnik.* 388, 196, 51-D8 (1992)

Extremely Low Thermal Conductivity of Amorphous Ice: Relevance to Comet Evolution. *A. Kouchi, J. M. Greenberg, T. Yamamoto, & T. Mukai.* 388, L73, 59-D9 (1992)

Cometary Gas-Phase Chemistry Taking into Account Homogeneous and Ion-induced Water Recondensation. *J. F. Crifo.* 391, 336, 90-B1 (1992)

Combined Infrared and Analytical Electron Microscope Studies of Interplanetary Dust Particles. *J. P. Bradley, H. J. Humecki, & M. S. Germani.* 394, 643, 137-D8 (1992)

The Formation of Magnetic Cavities in Comets. *Z. Klopman, A. Eviatar, & R. Goldstein.* 394, 652, 137-E10 (1992)

A Three-dimensional Axisymmetric Photochemical Flow Model of the Cometary "Inner" Shock Layer. *M. C. Damas & D. A. Mendis.* 396, 704, 166-B1 (1992)

Comet Outbursts and Polymers of HCN. *Terrence W. Rettig, Stephen C. Tegler, Daniel J. Pasto, & Michael J. Mumma.* 398, 293, 185-D5 (1992)

Observational Constraints on Solar Nebula Nitrogen Chemistry: N_2/NH_3. *Maria Womack, Susan Wyckoff, & L. M. Ziurys.* 401, 728, 231-E6 (1992)

COMETS: INDIVIDUAL

Name: Austin 1989c

Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin 1989c_1. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)

Name: Brorsen-Metcalf

NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

Name: Halley

The Effect of Electron Collisions on Rotational Populations of Cometary Water. *Xingfa Xie & Michael J. Mumma.* 386, 720, 34-C4 (1992)

CONDUCTION

On the Thermal Conductivity due to Collisions between Relativistic Degenerate Electrons. *F. X. Timmes.* 390, L107, 85-D9 (1992)

Semiempirical Limits on the Thermal Conductivity of Intracluster Gas. *Laurence P. David, John P. Hughes, & Wallace H. Tucker.* 394, 452, 135-A7 (1992)

The Conductive Propagation of Nuclear Flames. I. Degenerate C + O and O + Ne + Mg White Dwarfs. *F. X. Timmes & S. E. Woosley.* 396, 649, 165-D9 (1992)

Two-Temperature Models of Old Supernova Remnants with Ion and Electron Thermal Conduction. *Wei Cui & Donald P. Cox.* 401, 206, 223-F1 (1992)

CONVECTION

Equilibrium of a Magnetic Flux Tube in a Compressible Flow. *Richard Kerswell & Stephen Childress.* 385, 746, 22-D1 (1992)

On the Evidence for Mesogranules in Solar Power Spectra. *Gregory P. Ginet & George W. Simon.* 386, 359, 28-F1 (1992)

On the Influence of the Convective Efficiency on the Determination of the Atmospheric Parameters of DA White Dwarfs. *P. Bergeron, F. Wesemael, & G. Fontaine.* 387, 288, 40-E1 (1992)

Convective Instability in Differentially Rotating Disks. *Dongsu Ryu & Jeremy Goodman.* 388, 438, 55-F12 (1992)

Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)

Large-Scale Flows and Solar Luminosity Variations. *S. Arendt.* 389, 421, 65-B6 (1992)

Further Improvements of a New Model for Turbulent Convection in Stars. *V. M. Canuto & I. Mazzitelli.* 389, 724, 70-D1 (1992)

Downflows and Entropy Gradient Reversal in Deep Convection. *Kwing L. Chan & Detlef Gigas.* 389, L87, 73-F3 (1992)

Propagation of Cosmic-Ray Nuclei in a Diffusing Galaxy with Convective Halo and Thin Matter Disk. *W. R. Webber, M. A. Lee, & M. Gupta.* 390, 96, 75-C3 (1992)

Stellar Evolution in Blue Populous Clusters of the Small Magellanic Cloud and the Problems of Envelope Semiconvection and Convective Core Overshooting. *Richard B. Stothers & Chao-wen Chin.* 390, 136, 75-F6 (1992)

Criterion for Convection in an Inhomogeneous Star. *Richard B. Stothers & Chao-wen Chin.* 390, L33, 78-E9 (1992)

Turbulent Convection with Overshooting: Reynolds Stress Approach. *V. M. Canuto.* 392, 218, 103-F1 (1992)

Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

Power Spectra of Median- and Small-Scale Solar Convection. *D.-Y. Chou, C.-S. Chen, K.-T. Ou, & C.-C. Wang.* 396, 333, 159-B11 (1992)

Multiple Periodicities in the Solar Magnetic Field: Possible Origin in a Multiple-Mode Solar Dynamo. *D. W. Boyer & E. H. Levy.* 396, 340, 159-C6 (1992)

A Formulation of Convection for Stellar Structure and Evolution Calculations without the Mixing-Length Theory Approximations. I. Application to the Sun. *Thomas Joseph Lydon, Peter A. Fox, & Sabatino Sofia.* 397, 701, 179-G3 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. I. The Mathematical Description. *Michael Gehmeyr.* 399, 265, 198-E1 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. II. Comparison of a Radiative and a Convective Model. *Michael Gehmeyr.* 399, 272, 198-E11 (1992)

Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

On the Inclination of Photospheric Solar Magnetic Fields. *Norman Murray.* 401, 386, 225-G5 (1992)

COSMIC STRINGS

String-induced Density Perturbations in Hot Dark Matter. *Dan N. Vollick.* 397, 14, 168-C1 (1992)

The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

COSMOLOGY: COSMIC MICROWAVE BACKGROUND

On the Origin of the Dipole Anisotropy as Determined by Quadrupole Measurements. *S. Bottani, P. de Bernardis, & F. Melchiorri.* 384, L1, 6-A9 (1992)

Anisotropies of the Cosmic Microwave Background in Nonstandard Cold Dark Matter Models. *Nicola Vittorio & Joseph Silk.* 385, L9, 17-B6 (1992)

Constraints on the Power Spectrum of the Primordial Density Field from Large-Scale Data: Microwave Background and Predictions of Inflation. *A. Kashlinsky.* 387, L1, 43-A8 (1992)

Constraints on Cosmological Models with the Decaying Cosmological Constant from Cosmic Background Radiation Anisotropies. *Naoshi Sugiyama & Katsuhiko Sato.* 387, 439, 44-B10 (1992)

Cosmic Background Radiation Anisotropies from Cosmic Structures: Models Based on the Tolman Solution. *Mirosław Panek.* 388, 225, 53-B4 (1992)

The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)

A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales. *M. L. Fischer, D. C. Alsop, E. S. Cheng, A. C. Clapp, D. A. Cottingham, J. O. Gundersen, T. C. Koch, E. Kreysa, P. R. Meinhold, A. E. Lange, P. M. Lubin, P. L. Richards, & G. F. Smoot.* 388, 242, 53-C11 (1992)

COBE Limits on Explosive Structure Formation Scenarios. *Janna J. Levin, Katherine Freese, & David N. Spergel.* 389, 464, 67-C5 (1992)

The Great Wall in the CfA Survey: Its Origin and Imprint on the Microwave Background Radiation. *F. Atrio-Barandela & A. Kashlinsky.* 390, 322, 79-C1 (1992)

Mass Fluctuations on 600 h^{-1} Mpc: A Result from Clusters of Galaxies. *Roberto Scaramella.* 390, L57, 84-E7 (1992)

COBE Differential Microwave Radiometers: Calibration Techniques. *C. L. Bennett, G. F. Smoot, M. Janssen, S. Gulkis, A. Kogut, G. Hinshaw, C. Backus, M. G. Hauser, J. C. Mather, L. Rokke, L. Tenorio, R. Weiss, D. T. Wilkinson, E. L. Wright, G. De Amici, N. W. Boggess, E. S. Cheng, P. D. Jackson, P. Keegstra, T. Kelsall, R. Kummerer, C. Lineweaver, S. H. Moseley, T. L. Murdock, J. Santana, R. A. Shafer, & R. F. Silverberg.* 391, 466, 93-F7 (1992)

Limits on Gaussian Fluctuations in the Cosmic Microwave Background at 19.2 GHz. *S. P. Boughn, E. S. Cheng, D. A. Cottingham, & D. J. Fixsen.* 391, L49, 99-C1 (1992)

A Model of the Galactic Dark Halo. *E. R. Wollman.* 392, 80, 102-A8 (1992)

The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

A Search for Anisotropy in the Cosmic Microwave Background on Intermediate Angular Scales. *D. C. Alsop, E. S. Cheng, A. C. Clapp, D. A. Cottingham, M. L. Fischer, J. O. Gundersen, E. Kreysa, A. E. Lange, P. M. Lubin, P. R. Meinhold, P. L. Richards, & G. F. Smoot.* 395, 317, 146-B5 (1992)

Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)

Large-Scale Microwave Anisotropy from Gravitating Seeds. *Shoba Veeraraghavan & Albert Stebbins.* 395, L55, 153-E1 (1992)

Surviving Cosmological Models after the Discovery of Large-Angle Anisotropies of the Cosmic Microwave Background. *Naoteru Gouda & Naoshi Sugiyama.* 395, L59, 153-E7 (1992)

A Measurement of the Cosmic Microwave Background Temperature at 7.5 GHz. *S. Levin, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, M. Limon, & G. Smoot.* 396, 3, 155-B5 (1992)

Structure in the *COBE* Differential Microwave Radiometer First-Year Maps. *G. F. Smoot, C. L. Bennett, A. Kogut, E. L. Wright, J. Aymon, N. W. Boggess, E. S. Cheng, G. De Amici, S. Gulkis, M. G. Hauser, G. Hinshaw, P. D. Jackson, M. Janssen, E. Kaita, T. Kelsall, P. Keegstra, C. Lineweaver, K. Loewenstein, P. Lubin, J. Mather, S. S. Meyer, S. H. Moseley, T. Murdock, L. Rokke, R. F. Silverberg, L. Tenorio, R. Weiss, & D. T. Wilkinson.* 396, L1, 160-B1 (1992)

Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers. *C. L. Bennett, G. F. Smoot, G. Hinshaw, E. L. Wright, A. Kogut, G. De Amici, S. S. Meyer, R. Weiss, D. T. Wilkinson, S. Gulkis, M. Janssen, N. W. Boggess, E. S. Cheng, M. G. Hauser, T. Kelsall, J. C. Mather, S. H. Moseley, Jr., T. L. Murdock, & R. F. Silverberg.* 396, L7, 160-C1 (1992)

Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer. *E. L. Wright, S. S. Meyer, C. L. Bennett, N. W. Boggess, E. S. Cheng, M. G. Hauser, A. Kogut, C. Lineweaver, J. C. Mather, G. F. Smoot, R. Weiss, S. Gulkis, G. Hinshaw, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. A. Shafer, R. F. Silverberg, & D. T. Wilkinson.* 396, L13, 160-D1 (1992)

Testing the Isotropy of the Cosmic Microwave Background: The ULISSE Experiment. *P. de Bernardis, S. Masi, F. Melchiorri, B. Melchiorri, & N. Vittorio.* 396, L57, 166-G1 (1992)

The *COBE* Mission: Its Design and Performance Two Years after Launch. *N. W. Boggess, J. C. Mather, R. Weiss, C. L. Bennett, E. S. Cheng, E. Dwek, S. Gulkis, M. G. Hauser, M. A. Janssen, T. Kelsall, S. S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, R. F. Silverberg, G. F. Smoot, D. T. Wilkinson, & E. L. Wright.* 397, 420, 175-G11 (1992)

CN Rotational Excitation. *E. Palazzi, N. Mandolesi, & Philippe Crane.* 398, 53, 182-F5 (1992)

A Degree-Scale Measurement of Anisotropy of the Cosmic Background Radiation. *Todd Gaier, Jeffrey Schuster, Joshua Gundersen, Timothy Koch, Michael Seiffert, Peter Meinhold, & Philip Lubin.* 398, L1, 187-A7 (1992)

$\delta T/T$ Limits from the UCSB South Pole Degree-Scale Experiment and Constraints on the Large-Scale Deviations from the Hubble Flow. *Krzysztof M. Górski.* 398, L5, 187-B1 (1992)

COBE Anisotropy from Supercluster Gas. *Craig J. Hogan.* 398, L77, 194-B1 (1992)

Latest *COBE* Results, Large-Scale Data, and Predictions of Inflation. *A. Kashlinsky.* 399, L1, 199-G1 (1992)

Possible Explanations of the Large Angle Fluctuations of the Microwave Background. *F. Hoyle & G. Burbidge.* 399, L9, 200-A1 (1992)

COBE Differential Microwave Radiometers: Preliminary Systematic Error Analysis. *A. Kogut, G. F. Smoot, C. L. Bennett, E. L. Wright, J. Aymon, G. De Amici, G. Hinshaw, P. D. Jackson, E. Kaita, P. Keegstra, C. Lineweaver, K. Loewenstein, L. Rokke, L. Tenorio, N. W. Boggess, E. S. Cheng, S. Gulkis, M. G. Hauser, M. A. Janssen, T. Kelsall, J. C. Mather, S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, R. F. Silverberg, R. Weiss, & D. T. Wilkinson.* 401, 1, 221-B1 (1992)

The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

COSMOLOGY: DARK MATTER

Cosmological Explosions from Cold Dark Matter Perturbations. *Robert J. Scherrer.* 384, 391, 7-B1 (1992)

Elliptical Galaxies with Dark Matter. I. Self-consistent Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 384, 423, 7-D9 (1992)

Elliptical Galaxies with Dark Matter. II. Optimal Luminous–Dark Matter Decomposition for a Sample of Bright Objects. *R. P. Saglia, G. Bertin, & M. Stiavelli.* 384, 433, 7-E7 (1992)

Dark Matter in NGC 4472. *Michael Loewenstein.* 384, 474, 8-A9 (1992)

Anisotropies of the Cosmic Microwave Background in Nonstandard Cold Dark Matter Models. *Nicola Vittorio & Joseph Silk.* 385, L9, 17-B6 (1992)

Thermal Evolution of Phases during the Cosmological Quark-Hadron Transition. *Michele Mariani & Silvio A. Bonometto.* 385, 393, 18-B5 (1992)

Two-Component Gravitating Systems and Red Giant–like Structure. *Masayuki Y. Fujimoto & Kohji Tomisaka.* 385, 445, 18-F10 (1992)

Velocity Dipoles in Cold Dark Matter Cosmologies. *Giuseppe Tormen, Francesco Lucchin, & Sabino Matarrese.* 386, 1, 24-B1 (1992)

Femtolensing of Gamma-Ray Bursters. *Andrew Gould.* 386, L5, 29-B5 (1992)

A Hydrodynamic Approach to Cosmology: Methodology. *Renyue Cen.* 78, 341, 7-B1 (1992)

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

Constraints on Cosmological Models with the Decaying Cosmological Constant from Cosmic Background Radiation Anisotropies. *Naoshi Sugiyama & Katsuhiko Sato.* 387, 439, 44-B10 (1992)

Topology of Large-Scale Structure in Seeded Hot Dark Matter Models. *Matthew M. Beaky, Robert J. Scherrer, & Jens V. Villumsen.* 387, 443, 44-C1 (1992)

Cosmological Density of WIMPs from Solar and Terrestrial Annihilations. *Andrew Gould.* 388, 338, 54-E5 (1992)

Constraints on Baryonic Dark Matter in the Galactic Halo and Local Group. *D. Richstone, A. Gould, P. Guhathakurta, & C. Flynn.* 388, 354, 54-F12 (1992)

Local Dark Matter from a Carefully Selected Sample. *John N. Bahcall, Chris Flynn, & Andrew Gould.* 389, 234, 62-G9 (1992)

Dwarf Spheroidal Galaxies and the Mass of the Neutrino. *Ortwin E. Gerhard & David N. Spergel.* 389, L9, 66-B11 (1992)

Large-Scale Structure in a Low-Bias Universe. *H. M. P. Couchman & R. G. Carlberg.* 389, 453, 67-B6 (1992)

The Efficiency of Galaxy Formation in Clusters. *Laurence P. David & George R. Blumenthal.* 389, 510, 67-G1 (1992)

Linear Velocity Fields in Non-Gaussian Models for Large-Scale Structure. *Robert J. Scherrer.* 390, 330, 79-C10 (1992)

A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

Dark Matter and Brown Dwarfs: Prospects for the Direct Detection of a Brown Dwarf Halo. *Ruth A. Daly & Gail C. McLaughlin.* 390, 423, 80-F1 (1992)

Using Arcs in Clusters of Galaxies as Probes to Cluster Potentials and the Faint Blue Galaxies. *Jordi Miralda-Escudé.* 390, L65, 84-F7 (1992)

The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

Using Gamma-Ray Bursts to Detect a Cosmological Density of Compact Objects. *O. M. Blaes & R. L. Webster.* 391, L63, 99-D7 (1992)

He I Absorption by Lyman-Alpha Clouds and Low-Redshift Lyman-Alpha Clouds. *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 392, 15, 101-C1 (1992)

A Model of the Galactic Dark Halo. *E. R. Wollman.* 392, 80, 102-A8 (1992)

A Hydrodynamic Treatment of the Cold Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah Ostriker.* 393, 22, 114-C12 (1992)

The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

Coherent Structures in the Universe and the Adhesion Model. *Lev Kofman, Dmitri Pogosyan, Sergei F. Shandarin, & Adrian L. Melott.* 393, 437, 121-D1 (1992)

Gauge-invariant Cosmological Perturbations in Two Gravitationally Coupled Perfect Fluids. *W. Zimdahl.* 393, 471, 121-F9 (1992)

Can Neutrino Decay–driven Mock Gravity Save Hot Dark Matter? *Randall J. Splinter & Adrian L. Melott.* 394, 7, 128-B8 (1992)

The Mass Function of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 394, 409, 134-D5 (1992)

Multifractal Properties of Cosmological *N*-Body Simulations. *Riccardo Valdarnini, Stefano Borgani, & Antonello Provenzale.* 394, 422, 134-E7 (1992)

Statistics of the Cosmic Mach Number from Numerical Simulations of a Cold Dark Matter Universe. *Yasushi Suto, Renyue Cen, & Jeremiah P. Ostriker.* 395, 1, 140-B1 (1992)

QSO Absorbers: Evidence for a Primeval Galaxy Population. *Arati Chokshi.* 395, 21, 140-D5 (1992)

Surviving Cosmological Models after the Discovery of Large-Angle Anisotropies of the Cosmic Microwave Background. *Naoteru Gouda & Naoshi Sugiyama.* 395, L59, 153-E7 (1992)

On the Straight Arc in Abell 2390. *Aggeliki Kassiola, Israel Kovner, & Roger D. Blandford.* 396, 10, 155-C1 (1992)

Properties of Galactic Halos in Spatially Flat Universes Dominated by Cold Dark Matter: Effects of Nonvanishing Cosmological Constant. *Tatsushi Suginohara & Yasushi Suto.* 396, 395, 162-C11 (1992)

String-induced Density Perturbations in Hot Dark Matter. *Dan N. Vollick.* 397, 14, 168-C1 (1992)

Cold Dark Matter versus Baryon-dominated Universes: Comparison with Peculiar Velocity and Acceleration Measurements. *Paola Del Grande & Nicola Vittorio.* 397, 26, 168-D1 (1992)

The Influence of Dark Matter on the Chemical Evolution of Elliptical Galaxies. *Francesca Matteucci.* 397, 32, 168-D9 (1992)

Dwarf Spheroidal Galaxies and Non-Newtonian Gravity. *Ortwin E. Gerhard & David N. Spergel.* 397, 38, 168-E1 (1992)

A Direct Gravitational Lensing Test for 10^6 $M_\odot$ Black Holes in Halos of Galaxies. *Joachim Wambsganss & Bohdan Paczyński.* 397, L1, 173-A8 (1992)

Generalized Newtonian Force Law and Hidden Mass. *Richard L. Liboff.* 397, L71, 180-G1 (1992)

Structure Formation in a Universe with Cold Plus Hot Dark Matter. *Anthony van Dalen & Robert K. Schaefer.* 398, 33, 182-D9 (1992)

Self-interacting Dark Matter. *Eric D. Carlson, Marie E. Machacek, & Lawrence J. Hall.* 398, 43, 182-E7 (1992)

Dark Matter, Long-Range Forces, and Large-Scale Structure. *Ben-Ami Gradwohl & Joshua A. Frieman.* 398, 407, 189-B8 (1992)

Galaxy Clusters and Cold Dark Matter: A Low-Density Unbiased Universe? *Neta A. Bahcall & Renyue Cen.* 398, L81, 194-B6 (1992)

Low-Redshift Lyman-Alpha Absorption Lines and the Dark Matter Halos of Disk Galaxies. *Philip Maloney.* 398, L89, 194-C1 (1992)

A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

A Three-dimensional Hydrodynamic Treatment of the Hot Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah P. Ostriker.* 399, 331, 202-B1 (1992)

Determination of Lens Parameters from Gravitationally Lensed Gamma-Ray Bursts. *Ramesh Narayan & Sylvanie Wallington.* 399, 368, 202-E1 (1992)

Galaxies and Gas in a Cold Dark Matter Universe. *Neal Katz, Lars Hernquist, & David H. Weinberg.* 399, L109, 207-F1 (1992)

Gravity and Count Probabilities in an Expanding Universe. *François R. Bouchet & Lars Hernquist.* 400, 25, 209-C13 (1992)

X-Ray Constraints on the Shape of the Dark Matter in Five Abell Clusters. *David A. Buote & Claude R. Canizares.* 400, 385, 215-B3 (1992)

The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 400, 398, 215-C5 (1992)

The Scaling Analysis as a Tool to Compare *N*-Body Simulations with Observations: Application to a Low-Bias Cold Dark Matter Model. *G. Yepes, R. Domínguez-Tenreiro, & H. M. P. Couchman.* 401, 40, 221-E3 (1992)

Cosmological Tidal Shear. *John Dubinski.* 401, 441, 228-B12 (1992)

COSMOLOGY: DIFFUSE RADIATION

The Faint Galaxy Contribution to the Diffuse Extragalactic Background Light. *Shaun Cole, Marie-Agnes Treyer, & Joseph Silk.* 385, 9, 12-B10 (1992)

The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

An Upper Limit on the Cosmic Ultraviolet Background. *Edward L. Wright.* 391, 34, 86-D11 (1992)

Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

A Deep Image of the Diffuse Soft X-Ray Background at the Galactic Plane. *Qingde Wang.* 392, 509, 108-E11 (1992)

The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

ROSAT Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays. *R. Lieu, J. J. Quenby, S. D. Sidher, T. J. Sumner, R. Willingale, R. G. West, A. W. Harris, S. L. Snowden, & K. Bickert.* 397, 158, 170-A1 (1992)

The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V. Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

COSMOLOGY: DISTANCE SCALE

A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

Spatial Correlations in a Redshift Survey of APM Galaxy Clusters. *G. B. Dalton, G. Efstathiou, S. J. Maddox, & W. J. Sutherland.* 390, L1, 78-A8 (1992)

The Hubble Constant from Nickel Radioactivity in Type Ia Supernovae. *David Branch.* 392, 35, 101-D9 (1992)

Classical Novae and the Extragalactic Distance Scale. *Mario Livio.* 393, 516, 122-C1 (1992)

Hubble Flows in the Pisces-Perseus Region from the Giovanelli-Haynes Galaxy Sample. *T. Ichikawa & M. Fukugita.* 394, 61, 128-G5 (1992)

Expanding Photospheres of Type II Supernovae and the Extragalactic Distance Scale. *Brian P. Schmidt, Robert P. Kirshner, & Ronald G. Eastman.* 395, 366, 146-G7 (1992)

Some Remarks on Luminosity Distance and Nucleosynthesis in Higher Dimensional Cosmology. *S. Chatterjee.* 397, 1, 168-B1 (1992)

Linear Regression in Astronomy. II. *Eric D. Feigelson & Gutti Jogesh Babu.* 397, 55, 168-F9 (1992)

Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)

The Hubble Flow from Brightest Cluster Galaxies. *Tod R. Lauer & Marc Postman.* 400, L47, 220-B8 (1992)

A Distance-independent Calibration of the Luminosity of Type Ia Supernovae and the Hubble Constant. *Bruno Leibundgut & Philip A. Pinto.* 401, 49, 221-F1 (1992)

The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

COSMOLOGY: EARLY UNIVERSE

On the Origin of the Dipole Anisotropy as Determined by Quadrupole Measurements. *S. Bottani, P. de Bernardis, & F. Melchiorri.* 384, L1, 6-A9 (1992)

Thermal Evolution of Phases during the Cosmological Quark-Hadron Transition. *Michele Mariani & Silvio A. Bonometto.* 385, 393, 18-B5 (1992)

On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

Cosmological "Seed" Magnetic Field from Inflation. *Bharat Ratra.* 391, L1, 91-F8 (1992)

Large-Scale Rotational Perturbations of a Friedmann Universe with Collisionless Matter and Primordial Magnetic Fields. *Anton Rebhan.* 392, 385, 107-B6 (1992)

The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

[C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

Self-interacting Dark Matter. *Eric D. Carlson, Marie E. Machacek, & Lawrence J. Hall.* 398, 43, 182-E7 (1992)

The Neutrino Process and ^{9}Be in the Early Universe. *R. A. Malaney.* 398, L45, 187-G1 (1992)

Dark Matter, Long-Range Forces, and Large-Scale Structure. *Ben-Ami Gradwohl & Joshua A. Frieman.* 398, 407, 189-B8 (1992)

The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

Two New Lithium-deficient Population II Dwarfs. *J. A. Thorburn.* 399, L83, 201-B13 (1992)

Light Element Nucleosynthesis: A False Clue? *N. Yu. Gnedin & J. P. Ostriker.* 400, 1, 209-A13 (1992)

The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations

from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

Hubble Space Telescope Imaging of Distant Galaxies: 4C 41.17 at $z = 3.8$. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

COSMOLOGY: GRAVITATIONAL LENSING

Do the Redshifts of Gravitational Lens Galaxies Rule Out a Large Cosmological Constant? *Christopher S. Kochanek.* 384, 1, 1-A11 (1992)

The Radio Time Delay in the Double Quasar 0957+561. *J. Lehár, J. N. Hewitt, D. H. Roberts, & B. F. Burke.* 384, 453, 7-G1 (1992)

The Time Delay of Gravitational Lens 0957+561. I. Methodology and Analysis of Optical Photometric Data. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 404, 18-C4 (1992)

The Time Delay of Gravitational Lens 0957+561. II. Analysis of Radio Data and Combined Optical-Radio Analysis. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 416, 18-D4 (1992)

Probability Distributions for the Magnification of Quasars due to Microlensing. *Joachim Wambsganss.* 386, 19, 24-C7 (1992)

Caustic-induced Features in Microlensing Magnification Probability Distributions. *Kevin P. Rauch, Shude Mao, Joachim Wambsganss, & Bohdan Paczyński.* 386, 30, 24-D10 (1992)

A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*. *Dan Maoz, John N. Bahcall, Donald P. Schneider, Rodger Doxsey, Neta A. Bahcall, Alexei V. Filippenko, W. Miller Goss, Ofer Lahav, & Brian Yanny.* 386, L1, 29-B1 (1992)

Femtolensing of Gamma-Ray Bursters. *Andrew Gould.* 386, L5, 29-B5 (1992)

The Central Velocity Dispersion of the Lensing Galaxy in the Quadruple Lens System Q2237+0305. *Craig B. Foltz, Paul C. Hewett, Rachel L. Webster, & Geraint F. Lewis.* 386, L43, 36-C1 (1992)

The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Reconciling the Image Brightness Ratios in the Gravitational Lens System 0957+561. *Samuel R. Conner, Joseph Lehár, & Bernard F. Burke.* 387, L61, 48-B7 (1992)

Gravitational Lensing by a Massive Black Hole at the Galactic Center. *Mark Wardle & Farhad Yusef-Zadeh.* 387, L65, 48-C1 (1992)

Multiple Quasars with Large Magnitude Differences: Extreme Magnification by Gravitational Lenses? *Aggeliki Kassiola & Israel Kovner.* 388, 33, 49-D10 (1992)

A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

Gravitational Lens Effects on the Density Parameter. *Hiroshi Yoshida & Minoru Omote.* 388, L1, 52-A7 (1992)

Weak Gravitational Lensing of Distant Galaxies. *Nick Kaiser.* 388, 272, 53-F7 (1992)

A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

Gravitational Microlensing by a Single Star plus External Shear. *Shude Mao.* 389, 63, 60-G9 (1992)

Gravitational Lensing, Time Delay, and Gamma-Ray Bursts. *Shude Mao.* 389, L41, 73-B1 (1992)

On the Rotation of Polarization by a Gravitational Lens. *C. C. Dyer & Eric G. Shaver.* 390, L5, 78-B1 (1992)

Using Arcs in Clusters of Galaxies as Probes to Cluster Potentials and the Faint Blue Galaxies. *Jordi Miralda-Escudé.* 390, L65, 84-F7 (1992)

The Unusual *K*-Band Characteristics of the Gravitational Lens System MG 1131+0456. *James Annis.* 391, L17, 92-A7 (1992)

Using Gamma-Ray Bursts to Detect a Cosmological Density of Compact Objects. *O. M. Blaes & R. L. Webster.* 391, L63, 99-D7 (1992)

HRCam Survey for Closely Spaced Gravitational Lenses. *David Crampton, Robert D. McClure, & J. Murray Fletcher.* 392, 23, 101-C10 (1992)

Hubble Space Telescope Imaging of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, Dan Maoz, Donald P. Schneider, Brian Yanny, & Rodger Doxsey.* 392, L1, 106-A7 (1992)

Gravitational Microlensing: The Effect of a Single Lens and the Impact of Sparse Sampling. *Joachim Wambsganss.* 392, 424, 107-E8 (1992)

Extending the Macho Search to $\sim 10^6\ M_\odot$. *Andrew Gould.* 392, 442, 107-G1 (1992)

Statistical Properties of Gravitational Lenses with a Nonzero Cosmological Constant. *M. Fukugita, T. Futamase, M. Kasai, & E. L. Turner.* 393, 3, 114-B4 (1992)

On Distances and the Hubble Parameter Determination in Gravitational Lenses. *Kazuya Watanabe, Misao Sasaki, & Kenji Tomita.* 394, 38, 128-E1 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

Gravitational Lensing, Finite Galaxy Cores, and the Cosmological Constant. *Lawrence M. Krauss & Martin White.* 394, 385, 134-B1 (1992)

Continuum and C III] Microlensing in Q2237+0305 and the Quasar Geometry. *René Racine.* 395, L65, 153-F1 (1992)

On the Straight Arc in Abell 2390. *Aggeliki Kassiola, Israel Kovner, & Roger D. Blandford.* 396, 10, 155-C1 (1992)

Discovering Planetary Systems through Gravitational Microlenses. *Andrew Gould & Abraham Loeb.* 396, 104, 156-D6 (1992)

Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)

A Direct Gravitational Lensing Test for 10^6 $M_\odot$ Black Holes in Halos of Galaxies. *Joachim Wambsganss & Bohdan Paczyński.* 397, L1, 173-A8 (1992)

Gravitational Lensing and the Variability of *G*. *Lawrence M. Krauss & Martin White.* 397, 357, 175-B4 (1992)

Effect of Binary Sources on the Search for Massive Astrophysical Compact Halo Objects via Microlensing. *Kim Griest & Wayne Hu.* 397, 362, 175-B12 (1992)

Gravitational Lenses in Redshift Surveys. *Christopher S. Kochanek.* 397, 381, 175-D6 (1992)

Lyα and C IV Narrow-Band Imaging of the Gravitational Lens 2237+030. *H. K. C. Yee & M. M. De Robertis.* 398, L21, 187-D1 (1992)

Nonstationary Gravitational Lenses and the Fermat Principle. *Valerio Faraoni.* 398, 425, 189-D1 (1992)

Determination of Lens Parameters from Gravitationally Lensed Gamma-Ray Bursts. *Ramesh Narayan & Sylvanie Wallington.* 399, 368, 202-E1 (1992)

An Arc System with a Radial Gravitational Image in the Cluster MS 2137−23. *B. Fort, O. Le Fevre, F. Hammer, & M. Cailloux.* 399, L125, 208-A1 (1992)

Perturbations of Cluster Cusps by Galaxies: The Triple Arc in Cl 0024+1654. *Aggeliki Kassiola, Israel Kovner, & Bernard Fort.* 400, 41, 209-E1 (1992)

Discovery of Neutral Hydrogen 21 Centimeter Absorption at Redshift 0.25 toward PKS 1413+135. *C. L. Carilli, Eric S. Perlman, & John T. Stocke.* 400, L13, 214-C1 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

Faint Object Spectrograph Observations of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, George F. Hartig, Buell T. Jannuzi, Dan Maoz, & Donald P. Schneider.* 400, L51, 220-C1 (1992)

LensClean: An Algorithm for Inverting Extended, Gravitationally Lensed Images with Application to the Radio Ring Lens PKS 1830−211. *Christopher S. Kochanek & Ramesh Narayan.* 401, 461, 228-D8 (1992)

COSMOLOGY: LARGE-SCALE STRUCTURE OF UNIVERSE

Primordial Gaussian Perturbation Fields: Constrained Realizations. *Yehuda Hoffman & Erez Ribak.* 384, 448, 7-F9 (1992)

The Topology of Large-Scale Structure. V. Two-dimensional Topology of Sky Maps. *J. Richard Gott III, Shude Mao, Changbom Park, & Ofer Lahav.* 385, 26, 12-D1 (1992)

Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

Abundance of Rich Clusters of Galaxies: A Test for Cosmological Parameters. *Per B. Lilje.* 386, L33, 36-B1 (1992)

The Coherence Length of the Peculiar Velocity Field in the Universe and the Large-Scale Galaxy Correlation Data. *A. Kashlinsky.* 386, L37, 36-B6 (1992)

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

Large-Scale Morphological Segregation in the Center for Astrophysics Redshift Survey. *Basilio X. Santiago & Michael A. Strauss.* 387, 9, 37-B7 (1992)

Large-Scale Structure in Isocurvature Baryon Models. *Tatsushi Suginohara & Yasushi Suto.* 387, 431, 44-B1 (1992)

Topology of Large-Scale Structure in Seeded Hot Dark Matter Models. *Matthew M. Beaky, Robert J. Scherrer, & Jens V. Villumsen.* 387, 443, 44-C1 (1992)

On Modeling a Relativistic Hierarchical (Fractal) Cosmology by Tolman's Spacetime. I. Theory. *Marcelo B. Ribeiro.* 388, 1, 49-B1 (1992)

Possible Geometric Patterns in 0.1c Scale Structure. *R. Brent Tully, Roberto Scaramella, Giampaolo Vettolani, & Giovanni Zamorani.* 388, 9, 49-B10 (1992)

The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)

Large-Scale Structure in a Low-Bias Universe. *H. M. P. Couchman & R. G. Carlberg.* 389, 453, 67-B6 (1992)

COBE Limits on Explosive Structure Formation Scenarios. *Janna J. Levin, Katherine Freese, & David N. Spergel.* 389, 464, 67-C5 (1992)

Relation of Redshift Surveys to Matter Distribution in Spherically Symmetric Dust Universes. *Hannu Kurki-Suonio & Edison Liang.* 390, 5, 74-B7 (1992)

The Large-Scale Galaxy Distribution in the Southern Sky Redshift Survey. *S. Maurogordato, R. Schaeffer, & L. N. da Costa.* 390, 17, 74-C7 (1992)

The Great Wall in the CfA Survey: Its Origin and Imprint on the Microwave Background Radiation. *F. Atrio-Barandela & A. Kashlinsky.* 390, 322, 79-C1 (1992)

Linear Velocity Fields in Non-Gaussian Models for Large-Scale Structure. *Robert J. Scherrer.* 390, 330, 79-C10 (1992)

Mass Fluctuations on 600 h^{-1} Mpc: A Result from Clusters of Galaxies. *Roberto Scaramella.* 390, L57, 84-E7 (1992)

The Quasi-Gaussian Density-Velocity Relationship. *Francis Bernardeau.* 390, L61, 84-F1 (1992)

Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

The Gravity-induced Quasi-Gaussian Correlation Hierarchy. *Francis Bernardeau.* 392, 1, 101-B1 (1992)

On the Origin of Cosmic Structure. *David Layzer.* 392, L5, 106-B1 (1992)

Gravitational Field Fluctuations in Weakly Clustered Systems. *V. Antonuccio-Delogu & F. Atrio-Barandela.* 392, 403, 107-C12 (1992)

The Formation of Cosmic Structure in a Texture-seeded Cold Dark Matter Cosmogony. *Andrew K. Gooding, Changbom Park, David N. Spergel, Neil Turok, & J. Richard Gott III.* 393, 42, 114-E9 (1992)

The Distribution of Rich Clusters of Galaxies in the South Galactic Pole Region. *Luigi Guzzo, Chris A. Collins, Robert C. Nichol, & Stuart L. Lumsden.* 393, L5, 120-B1 (1992)

The Void Spectrum in Two-dimensional Numerical Simulations of Gravitational Clustering. *Guinevere Kauffmann & Adrian L. Melott.* 393, 415, 121-B1 (1992)

Coherent Structures in the Universe and the Adhesion Model. *Lev Kofman, Dmitri Pogosyan, Sergei F. Shandarin, & Adrian L. Melott.* 393, 437, 121-D1 (1992)

Percolation Analysis of Nonlinear Structures in Scale-free Two-dimensional Simulations. *Kurt G. Dominik & Sergei F. Shandarin.* 393, 450, 121-E1 (1992)

On Formation of the Superlarge Structure in the Universe. *Olga E. Buryak, Marek Demiański, & Andrej G. Doroshkevich.* 393, 464, 121-F1 (1992)

Does Faint Galaxy Clustering Contradict Gravitational Instability? *Adrian L. Melott.* 393, L45, 127-B1 (1992)

Large-Scale Radial Velocity Correlations as a Test of Gaussian Initial Conditions. *Stephen D. Landy & Alexander S. Szalay.* 394, 25, 128-D1 (1992)

Previrialization. *August E. Evrard & Mary M. Crone.* 394, L1, 133-A7 (1992)

Density Perturbations Driven by the Irregular Spatial Curvature in Inhomogeneous Cosmological Models. *Kenji Tomita.* 394, 401, 134-C9 (1992)

Statistics of the Cosmic Mach Number from Numerical Simulations of a Cold Dark Matter Universe. *Yasushi Suto, Renyue Cen, & Jeremiah P. Ostriker.* 395, 1, 140-B1 (1992)

The Angular Three-Point Function of Galaxy Clusters. *Stefano Borgani, Yipeng Jing, & Manolis Plionis.* 395, 339, 146-D5 (1992)

Nonlinear Gravitational Evolution of Phases and Amplitudes in One-dimensional Cosmological Density Fields. *Jiro Soda & Yasushi Suto.* 396, 379, 162-B1 (1992)

A Cosmological Field Theory. *Steven P. Starkovich & Fred I. Cooperstock.* 398, 1, 182-B1 (1992)

Clustering of Galaxy Clusters. II. Rare Events in the Cluster Distribution. *Manolis Plionis, Riccardo Valdarnini, & Yi-Peng Jing.* 398, 12, 182-C1 (1992)

Structure Formation in a Universe with Cold Plus Hot Dark Matter. *Anthony van Dalen & Robert K. Schaefer.* 398, 33, 182-D9 (1992)

The Evolution of Quasar Clustering. *Paola Andreani & Stefano Cristiani.* 398, L13, 187-C1 (1992)

N-Point Correlation Functions in the CfA and SSRS Redshift Distribution of Galaxies. *Enrique Gaztañaga.* 398, L17, 187-C7 (1992)

Dark Matter, Long-Range Forces, and Large-Scale Structure. *Ben-Ami Gradwohl & Joshua A. Frieman.* 398, 407, 189-B8 (1992)

The Shape of the Two-Point Correlation Function: Evidence for a Double Power Law. *Daniela Calzetti, Mauro Giavalisco, & Avery Meiksin.* 398, 429, 189-D7 (1992)

Galaxy Clusters and Cold Dark Matter: A Low-Density Unbiased Universe? *Neta A. Bahcall & Renyue Cen.* 398, L81, 194-B6 (1992)

Latest *COBE* Results, Large-Scale Data, and Predictions of Inflation. *A. Kashlinsky.* 399, L1, 199-G1 (1992)

The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

Galaxy Formation and Physical Bias. *Renyue Cen & Jeremiah P. Ostriker.* 399, L113, 207-F7 (1992)

The Hubble Flow from Brightest Cluster Galaxies. *Tod R. Lauer & Marc Postman.* 400, L47, 220-B8 (1992)

A Quantitative Measure of Structure in the Three-dimensional Galaxy Distribution: Sheets and Filaments. *Arif Babul & Glenn D. Starkman.* 401, 28, 221-D3 (1992)

The Scaling Analysis as a Tool to Compare *N*-Body Simulations with Observations: Application to a Low-Bias Cold Dark Matter Model. *G. Yepes, R. Domínguez-Tenreiro, & H. M. P. Couchman.* 401, 40, 221-E3 (1992)

A Simple Multifractal Model of Nonlinear Gravitational Clustering. *Antonello Provenzale, Piero Galeotti, Giuseppe Murante, & Barbara Villone.* 401, 455, 228-D1 (1992)

Is There a Pancake at $z = 3.4$? *Douglas Scott.* 401, L53, 232-E10 (1992)

COSMOLOGY: MISCELLANEOUS

Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)

COSMOLOGY: OBSERVATIONS

Do the Redshifts of Gravitational Lens Galaxies Rule Out a Large Cosmological Constant? *Christopher S. Kochanek.* 384, 1, 1-A11 (1992)

Statistical Tests of Peaks and Periodicities in the Observed Redshift Distribution of Quasi-stellar Objects. *Debiprosad Duari, Patrick Das Gupta, & Jayant V. Narlikar.* 384, 35, 1-D9 (1992)

The Distribution of Galaxies within the "Great Wall." *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 384, 396, 7-B7 (1992)

The Faint Galaxy Contribution to the Diffuse Extragalactic Background Light. *Shaun Cole, Marie-Agnes Treyer, & Joseph Silk.* 385, 9, 12-B10 (1992)

Measuring Omega and the Real Correlation Function from the Redshift Correlation Function. *A. J. S. Hamilton.* 385, L5, 17-B1 (1992)

The Time Delay of Gravitational Lens 0957+561. I. Methodology and Analysis of Optical Photometric Data. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 404, 18-C4 (1992)

The Time Delay of Gravitational Lens 0957+561. II. Analysis of Radio Data and Combined Optical-Radio Analysis. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 416, 18-D4 (1992)

Constraints on the Universe with a Decaying Cosmological Constant from a Number Count of Faint Galaxies. *Yuzuru Yoshii & Katsuhiko Sato.* 387, L7, 43-B1 (1992)

Possible Geometric Patterns in 0.1*c* Scale Structure. *R. Brent Tully, Roberto Scaramella, Giampaolo Vettolani, & Giovanni Zamorani.* 388, 9, 49-B10 (1992)

Magnetic Fields in Damped Lyα Systems. *A. M. Wolfe, K. M. Lanzetta, & A. L. Oren.* 388, 17, 49-C5 (1992)

Galactic Disks, Infall, and the Global Value of Ω. *G. Tóth & J. P. Ostriker.* 389, 5, 60-B6 (1992)

The Contribution of Quasars to the Ultraviolet Extragalactic Background. *Piero Madau.* 389, L1, 66-B1 (1992)

Type II-L Supernovae—Standard Bombs. *C. Martin Gaskell.* 389, L17, 66-C6 (1992)

The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

Clustering of Galaxy Clusters. I. Is the Spatial Cluster-Cluster Correlation Function Enhanced Significantly by Contaminations? *Yi-Peng Jing, Manolis Plionis, & Riccardo Valdarnini.* 389, 499, 67-F3 (1992)

The Implications of the *Compton (GRO)* Observations for Cosmological Gamma-Ray Bursts. *Tsvi Piran.* 389, L45, 73-B6 (1992)

H I Observations of Galaxies in the Hercules Supercluster. II. Additional UGC Galaxies and Galaxies in Selected CGCG Fields. *Wolfram Freudling, Martha P. Haynes, & Riccardo Giovanelli.* 79, 157, 16-B1 (1992)

The Large-Scale Galaxy Distribution in the Southern Sky Redshift Survey. *S. Maurogordato, R. Schaeffer, & L. N. da Costa.* 390, 17, 74-C7 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution. *Edward J. Shaya, R. Brent Tully, & Michael J. Pierce.* 391, 16, 86-C5 (1992)

An Upper Limit on the Cosmic Ultraviolet Background. *Edward L. Wright.* 391, 34, 86-D11 (1992)

Large-Scale Clustering of Galaxies in the CfA Redshift Survey. *Michael S. Vogeley, Changbom Park, Margaret J. Geller, & John P. Huchra.* 391, L5, 91-G1 (1992)

Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)

He I Absorption by Lyman-Alpha Clouds and Low-Redshift Lyman-Alpha Clouds. *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 392, 15, 101-C1 (1992)

HRCam Survey for Closely Spaced Gravitational Lenses. *David Crampton, Robert D. McClure, & J. Murray Fletcher.* 392, 23, 101-C10 (1992)

Large-Scale Structure in the Southern Sky Redshift Survey. *Changbom Park, J. Richard Gott III, & L. Nicolaci da Costa.* 392, L51, 113-B6 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution: Distances, Model, and the Local Velocity Anomaly. *R. Brent Tully, Edward J. Shaya, & Michael J. Pierce.* 80, 479, 30-B1 (1992)

The Distribution of Rich Clusters of Galaxies in the South Galactic Pole Region. *Luigi Guzzo, Chris A. Collins, Robert C. Nichol, & Stuart L. Lumsden.* 393, L5, 120-B1 (1992)

Hubble Flows in the Pisces-Perseus Region from the Giovanelli-Haynes Galaxy Sample. *T. Ichikawa & M. Fukugita.* 394, 61, 128-G5 (1992)

Multifractal Properties of Cosmological *N*-Body Simulations. *Riccardo Valdarnini, Stefano Borgani, & Antonello Provenzale.* 394, 422, 134-E7 (1992)

Expanding Photospheres of Type II Supernovae and the Extragalactic Distance Scale. *Brian P. Schmidt, Robert P. Kirshner, & Ronald G. Eastman.* 395, 366, 146-G7 (1992)

Structure in the *COBE* Differential Microwave Radiometer First-Year Maps. *G. F. Smoot, C. L. Bennett, A. Kogut, E. L. Wright, J. Aymon, N. W. Boggess, E. S. Cheng, G. De Amici, S. Gulkis, M. G. Hauser, G. Hinshaw, P. D. Jackson, M. Janssen, E. Kaita, T. Kelsall, P. Keegstra, C. Lineweaver, K. Loewenstein, P. Lubin, J. Mather, S. S. Meyer, S. H. Moseley, T. Murdock, L. Rokke, R. F. Silverberg, L. Tenorio, R. Weiss, & D. T. Wilkinson.* 396, L1, 160-B1 (1992)

Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers. *C. L. Bennett, G. F. Smoot, G. Hinshaw, E. L. Wright, A. Kogut, G. De Amici, S. S. Meyer, R. Weiss, D. T. Wilkinson, S. Gulkis, M. Janssen, N. W. Boggess, E. S. Cheng, M. G. Hauser, T. Kelsall, J. C. Mather, S. H. Moseley, Jr., T. L. Murdock, & R. F. Silverberg.* 396, L7, 160-C1 (1992)

Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer. *E. L. Wright, S. S. Meyer, C. L. Bennett, N. W. Boggess, E. S. Cheng, M. G. Hauser, A. Kogut, C. Lineweaver, J. C. Mather, G. F. Smoot, R. Weiss, S. Gulkis, G. Hinshaw, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. A. Shafer, R. F. Silverberg, & D. T. Wilkinson.* 396, L13, 160-D1 (1992)

A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)

A Direct Measure of the Gunn-Peterson Effect at $z = 3$: Limits on the Baryon Density of the Intergalactic Medium at High Redshifts. *Emanuele Giallongo, Stefano Cristiani, & Dario Trevese.* 398, L9, 187-B7 (1992)

Low-Redshift Lyman-Alpha Absorption Lines and the Dark Matter Halos of Disk Galaxies. *Philip Maloney.* 398, L89, 194-C1 (1992)

Possible Explanations of the Large Angle Fluctuations of the Microwave Background. *F. Hoyle & G. Burbidge.* 399, L9, 200-A1 (1992)

Angular Correlation Function of Faint Galaxies. *C. J. Pritchet & L. Infante.* 399, L35, 200-C13 (1992)

A Simple Test of Independence for Truncated Data with Applications to Redshift Surveys. *Bradley Efron & Vahé Petrosian.* 399, 345, 202-C1 (1992)

Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)

The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

Is There a Pancake at $z = 3.4$? *Douglas Scott.* 401, L53, 232-E10 (1992)

COSMOLOGY: THEORY

Charged Particle Creation in the Steady State Universe. *Richard L. Liboff.* 384, 12, 1-B10 (1992)

On the Origin of the Dipole Anisotropy as Determined by Quadrupole Measurements. *S. Bottani, P. de Bernardis, & F. Melchiorri.* 384, L1, 6-A9 (1992)

Cosmological Explosions from Cold Dark Matter Perturbations. *Robert J. Scherrer.* 384, 391, 7-B1 (1992)

Loitering Universe. *Varun Sahni, Hume Feldman, & Albert Stebbins.* 385, 1, 12-B1 (1992)

Measuring Omega and the Real Correlation Function from the Redshift Correlation Function. *A. J. S. Hamilton.* 385, L5, 17-B1 (1992)

Anisotropies of the Cosmic Microwave Background in Nonstandard Cold Dark Matter Models. *Nicola Vittorio & Joseph Silk.* 385, L9, 17-B6 (1992)

The Magnitude-Redshift Relation. *Allen I. Janis.* 385, 391, 18-B1 (1992)

Thermal Evolution of Phases during the Cosmological Quark-Hadron Transition. *Michele Mariani & Silvio A. Bonometto.* 385, 393, 18-B5 (1992)

Velocity Dipoles in Cold Dark Matter Cosmologies. *Giuseppe Tormen, Francesco Lucchin, & Sabino Matarrese.* 386, 1, 24-B1 (1992)

Predicted Galaxy Counts in CO Emission. *Frances Verter.* 386, 398, 30-D1 (1992)

A Hydrodynamic Approach to Cosmology: Methodology. *Renyue Cen.* 78, 341, 7-B1 (1992)

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

Big Bang Archeology: WIMP Capture by the Earth at Finite Optical Depth. *Andrew Gould.* 387, 21, 37-C7 (1992)

Constraints on the Universe with a Decaying Cosmological Constant from a Number Count of Faint Galaxies. *Yuzuru Yoshii & Katsuhiko Sato.* 387, L7, 43-B1 (1992)

Large-Scale Structure in Isocurvature Baryon Models. *Tatsushi Suginohara & Yasushi Suto.* 387, 431, 44-B1 (1992)

Constraints on Cosmological Models with the Decaying Cosmological Constant from Cosmic Background Radiation Anisotropies. *Naoshi Sugiyama & Katsuhiko Sato.* 387, 439, 44-B10 (1992)

On Modeling a Relativistic Hierarchical (Fractal) Cosmology by Tolman's Spacetime. I. Theory. *Marcelo B. Ribeiro.* 388, 1, 49-B1 (1992)

Gravitational Lens Effects on the Density Parameter. *Hiroshi Yoshida & Minoru Omote.* 388, L1, 52-A7 (1992)

The Formation of Giant Low Surface Brightness Galaxies. *Yehuda Hoffman, Joseph Silk, & Rosemary F. G. Wyse.* 388, L13, 52-B6 (1992)

Cosmic Background Radiation Anisotropies from Cosmic Structures: Models Based on the Tolman Solution. *Mirosław Panek.* 388, 225, 53-B4 (1992)

Cosmological Density of WIMPs from Solar and Terrestrial Annihilations. *Andrew Gould.* 388, 338, 54-E5 (1992)

On the Cosmological Origin of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 388, L45, 59-A9 (1992)

Limits on a Possible Violation of the Strong Equivalence Principle from Primordial Nucleosynthesis. *A. Serna & R. Domínguez-Tenreiro.* 389, 1, 60-B1 (1992)

Large-Scale Structure in a Low-Bias Universe. *H. M. P. Couchman & R. G. Carlberg.* 389, 453, 67-B6 (1992)

COBE Limits on Explosive Structure Formation Scenarios. *Janna J. Levin, Katherine Freese, & David N. Spergel.* 389, 464, 67-C5 (1992)

Quasar Absorption Lines with a Nonzero Cosmological Constant. *Edwin L. Turner & Satoru Ikeuchi.* 389, 478, 67-D7 (1992)

The Continuum Model in Astrophysics. *Richard L. Liboff.* 390, 1, 74-B1 (1992)

On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

The Quasi-Gaussian Density-Velocity Relationship. *Francis Bernardeau.* 390, L61, 84-F1 (1992)

Cosmological "Seed" Magnetic Field from Inflation. *Bharat Ratra.* 391, L1, 91-F8 (1992)

The Rate of Gravitational Galaxy Clustering. *William C. Saslaw.* 391, 423, 93-B4 (1992)

Conformal Gravity and the Flatness Problem. *Philip D. Mannheim.* 391, 429, 93-B12 (1992)

Primordial Nucleosynthesis Bounds on the Brans-Dicke Theory. *A. Serna, R. Domínguez-Tenreiro, & G. Yepes.* 391, 433, 93-C4 (1992)

Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

The Synchro-Compton Limit of the Brightness Temperature of Nonstationary Radio Sources. *V. I. Slysh.* 391, 453, 93-E4 (1992)

Using Gamma-Ray Bursts to Detect a Cosmological Density of Compact Objects. *O. M. Blaes & R. L. Webster.* 391, L63, 99-D7 (1992)

The Gravity-induced Quasi-Gaussian Correlation Hierarchy. *Francis Bernardeau.* 392, 1, 101-B1 (1992)

On the Origin of Cosmic Structure. *David Layzer.* 392, L5, 106-B1 (1992)

Intergalactic Ionizing Flux from Active Galactic Nuclei. *Nobuo Terasawa.* 392, L15, 106-C1 (1992)

Large-Scale Rotational Perturbations of a Friedmann Universe with Collisionless Matter and Primordial Magnetic Fields. *Anton Rebhan.* 392, 385, 107-B6 (1992)

Cosmic Curvature and Condensation. *Martin Harwit.* 392, 394, 107-C1 (1992)

Statistical Properties of Gravitational Lenses with a Nonzero Cosmological Constant. *M. Fukugita, T. Futamase, M. Kasai, & E. L. Turner.* 393, 3, 114-B4 (1992)

A Hydrodynamic Treatment of the Cold Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah Ostriker.* 393, 22, 114-C12 (1992)

Gauge-invariant Cosmological Perturbations in Two Gravitationally Coupled Perfect Fluids. *W. Zimdahl.* 393, 471, 121-F9 (1992)

A Lower Limit on the Cosmic Mean Density from the Ages of Clusters of Galaxies. *D. Richstone, A. Loeb, & E. L. Turner.* 393, 477, 121-G1 (1992)

Models for Galaxy Halos in an Open Universe. *Simon D. M. White & Dennis Zaritsky.* 394, 1, 128-B1 (1992)

Can Neutrino Decay–driven Mock Gravity Save Hot Dark Matter? *Randall J. Splinter & Adrian L. Melott.* 394, 7, 128-B8 (1992)

Thick Strings, the Liquid Crystal Blue Phase, and Cosmological Large-Scale Structure. *Xiaochun Luo & David N. Schramm.* 394, 12, 128-C1 (1992)

A Physical Interpretation of Kaluza-Klein Cosmology. *Paul S. Wesson.* 394, 19, 128-C9 (1992)

Large-Scale Radial Velocity Correlations as a Test of Gaussian Initial Conditions. *Stephen D. Landy & Alexander S. Szalay.* 394, 25, 128-D1 (1992)

Previrialization. *August E. Evrard & Mary M. Crone.* 394, L1, 133-A7 (1992)

Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

Gravitational Lensing, Finite Galaxy Cores, and the Cosmological Constant. *Lawrence M. Krauss & Martin White.* 394, 385, 134-B1 (1992)

Cosmological Density Perturbations with Modified Gravity. *Redouane Fakir, Salman Habib, & William Unruh.* 394, 396, 134-C1 (1992)

Density Perturbations Driven by the Irregular Spatial Curvature in Inhomogeneous Cosmological Models. *Kenji Tomita.* 394, 401, 134-C9 (1992)

The Mass Function of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 394, 409, 134-D5 (1992)

Statistics of the Cosmic Mach Number from Numerical Simulations of a Cold Dark Matter Universe. *Yasushi Suto, Renyue Cen, & Jeremiah P. Ostriker.* 395, 1, 140-B1 (1992)

QSO Absorbers: Evidence for a Primeval Galaxy Population. *Arati Chokshi.* 395, 21, 140-D5 (1992)

On Modeling a Relativistic Hierarchical (Fractal) Cosmology by Tolman's Spacetime. II. Analysis of the Einstein–de Sitter Model. *Marcelo B. Ribeiro.* 395, 29, 140-E1 (1992)

Cosmological Perturbations and the Physical Meaning of Gauge-invariant Variables. *Marco Bruni, Peter K. S. Dunsby, & George F. R. Ellis.* 395, 34, 140-E7 (1992)

Covariant Perturbations in a Multifluid Cosmological Medium. *Peter K. S. Dunsby, Marco Bruni, & George F. R. Ellis.* 395, 54, 140-G1 (1992)

Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)

New Constraints and Improvements on Oscillating Physics. *Robert G. Crittenden & Paul J. Steinhardt.* 395, 360, 146-F9 (1992)

Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer. *E. L. Wright, S. S. Meyer, C. L. Bennett, N. W. Boggess, E. S. Cheng, M. G. Hauser, A. Kogut, C. Lineweaver, J. C. Mather, G. F. Smoot, R. Weiss, S. Gulkis, G. Hinshaw, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. A. Shafer, R. F. Silverberg, & D. T. Wilkinson.* 396, L13, 160-D1 (1992)

Nonlinear Gravitational Evolution of Phases and Amplitudes in One-dimensional Cosmological Density Fields. *Jiro Soda & Yasushi Suto.* 396, 379, 162-B1 (1992)

Properties of Galactic Halos in Spatially Flat Universes Dominated by Cold Dark Matter: Effects of Nonvanishing Cosmological Constant. *Tatsushi Suginohara & Yasushi Suto.* 396, 395, 162-C11 (1992)

The Evolution of the QSO Luminosity Function Up to $z = 4$: The Role of K-Correction Uncertainties. *Emanuele Giallongo & Fausto Vagnetti.* 396, 411, 162-E5 (1992)

Some Remarks on Luminosity Distance and Nucleosynthesis in Higher Dimensional Cosmology. *S. Chatterjee.* 397, 1, 168-B1 (1992)

Faint Galaxy Evolution via Interactions. *R. G. Carlberg & Stéphane Charlot.* 397, 5, 168-B6 (1992)

String-induced Density Perturbations in Hot Dark Matter. *Dan N. Vollick.* 397, 14, 168-C1 (1992)

Cold Dark Matter versus Baryon-dominated Universes: Comparison with Peculiar Velocity and Acceleration Measurements. *Paola Del Grande & Nicola Vittorio.* 397, 26, 168-D1 (1992)

Gravitational Lensing and the Variability of *G. Lawrence M. Krauss & Martin White.* 397, 357, 175-B4 (1992)

Inhomogeneous Cosmologies with Shock Waves. *Anna Curir, Mauro Francaviglia, & Enric Verdaguer.* 397, 390, 175-E3 (1992)

A Cosmological Field Theory. *Steven P. Starkovich & Fred I. Cooperstock.* 398, 1, 182-B1 (1992)

Self-interacting Dark Matter. *Eric D. Carlson, Marie E. Machacek, & Lawrence J. Hall.* 398, 43, 182-E7 (1992)

Dark Matter, Long-Range Forces, and Large-Scale Structure. *Ben-Ami Gradwohl & Joshua A. Frieman.* 398, 407, 189-B8 (1992)

COBE Anisotropy from Supercluster Gas. *Craig J. Hogan.* 398, L77, 194-B1 (1992)

Galaxy Clusters and Cold Dark Matter: A Low-Density Unbiased Universe? *Neta A. Bahcall & Renyue Cen.* 398, L81, 194-B6 (1992)

Latest *COBE* Results, Large-Scale Data, and Predictions of Inflation. *A. Kashlinsky.* 399, L1, 199-G1 (1992)

The Implications of the *COBE* Diffuse Microwave Radiation Results for Cosmic Strings. *David P. Bennett, Albert Stebbins, & François R. Bouchet.* 399, L5, 199-G7 (1992)

A Tilted Cold Dark Matter Cosmological Scenario. *Renyue Cen, Nickolay Y. Gnedin, Lev A. Kofman, & Jeremiah P. Ostriker.* 399, L11, 200-A5 (1992)

Merging and Fast Galaxy Evolution. *R. G. Carlberg.* 399, L31, 200-C7 (1992)

A Three-dimensional Hydrodynamic Treatment of the Hot Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah P. Ostriker.* 399, 331, 202-B1 (1992)

Galaxies and Gas in a Cold Dark Matter Universe. *Neal Katz, Lars Hernquist, & David H. Weinberg.* 399, L109, 207-F1 (1992)

Light Element Nucleosynthesis: A False Clue? *N. Yu. Gnedin & J. P. Ostriker.* 400, 1, 209-A13 (1992)

Newton's Laws in a Cosmological Model. *Mark Israelit & Nathan Rosen.* 400, 21, 209-C7 (1992)

Gravity and Count Probabilities in an Expanding Universe. *François R. Bouchet & Lars Hernquist.* 400, 25, 209-C13 (1992)

Non–Self-similar Clustering of Galaxies. *Mirt Gramann.* 401, 19, 221-C7 (1992)

An Inhomogeneous Slab Cosmology. *Kayll Lake.* 401, L1, 227-A7 (1992)

Are Cluster Ellipticals the Products of Mergers? *Gary A. Mamon.* 401, L3, 227-A10 (1992)

Cylindrical Universes with Heat and Null Radiation Flow. *L. K. Patel & Naresh Dadhich.* 401, 433, 228-B1 (1992)

Viscous Fluid in a Five-dimensional Cosmological Model. *Subenoy Chakraborty & Gopal Ch. Nandy.* 401, 437, 228-B6 (1992)

Cosmological Tidal Shear. *John Dubinski.* 401, 441, 228-B12 (1992)

The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

Is There a Pancake at $z = 3.4$? *Douglas Scott.* 401, L53, 232-E10 (1992)

Possibility of Unique Detection of Primordial Black Hole Gamma-Ray Bursts. *David B. Cline & Woopyo Hong.* 401, L57, 232-F3 (1992)

DENSE MATTER

Rotational Properties of Strange Stars. *M. Colpi & J. C. Miller.* 388, 513, 56-F1 (1992)

Postglitch Behavior of the Crab Pulsar: Evidence for External Torque Variations. *Bennett Link, Richard I. Epstein, & Gordon Baym.* 390, L21, 78-D5 (1992)

Rapid Cooling of Neutron Stars by Hyperons and Δ Isobars. *Madappa Prakash, Manju Prakash, James M. Lattimer, & C. J. Pethick.* 390, L77, 85-A1 (1992)

Neutrino Emissivity of an Ultrarelativistic Plasma from Positron and Plasmino Annihilation. *Eric Braaten.* 392, 70, 101-G7 (1992)

A Solvable Model of Fusion Rates in Dense Stars. *Magnus Jändel & Mikael Sahrling.* 393, 679, 124-C5 (1992)

The Cooling of Neutron Stars by the Direct Urca Process. *Dany Page & James H. Applegate.* 394, L17, 133-C7 (1992)

Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M^a. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)

Pycnonuclear Triple-α Fusion Rates. *S. Schramm, K. Langanke, & S. E. Koonin.* 397, 579, 178-B12 (1992)

Oscillations and Collapse of Compressible Homogeneous Rotating Spheroids with Electron Degeneracy. *T. T. Chia & S. Y. Pung.* 398, 574, 191-C7 (1992)

Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)

On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)

Nuclear Solid Crust on Rotating Strange Quark Stars. *N. K. Glendenning & F. Weber.* 400, 647, 218-D11 (1992)

Pycnonuclear Reaction Rates for Binary Ionic Mixtures. *S. Ichimaru, S. Ogata, & H. M. Van Horn.* 401, L35, 227-E7 (1992)

DIFFUSION

The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

Covariant Flux-limited Diffusion Theories. *A. M. Anile & V. Romano.* 386, 325, 28-C5 (1992)

The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

The Identification of Highly Ionized Metal Species in the Hot DA1 White Dwarf G191-B2B with the *Hubble Space Telescope* Faint Object Spectrograph. *Edward M. Sion, Ralph C. Bohlin, Richard W. Tweedy, & Gerard P. Vauclair.* 391, L29, 92-B11 (1992)

Nonlinear Restrictions on Dynamo Action. *Samuel I. Vainshtein & Fausto Cattaneo.* 393, 165, 116-B5 (1992)

A Flux-limited Model of Particle Diffusion and Viscosity. *Ramesh Narayan.* 394, 261, 131-C3 (1992)
Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)
Helium Diffusion in the Sun. *J. N. Bahcall & M. H. Pinsonneault.* 395, L119, 154-D7 (1992)
Helium Gravitational Settling in the Envelopes of Evolving Main-Sequence A and F Stars. *Jacques Richer, Georges Michaud, & Charles R. Proffitt.* 82, 329, 54-A1 (1992)
On "High Flyers" in Fermi Acceleration. *Lewis Ball, D. B. Melrose, & C. A. Norman.* 398, L65, 188-B7 (1992)
Flux-limited Diffusion in Hydrodynamics. *J. Cooperstein & E. Baron.* 398, 531, 190-F11 (1992)
A Study of Metal Abundance Patterns in Cool White Dwarfs. I. Time-dependent Calculations of Gravitational Settling. *J. Dupuis, G. Fontaine, C. Pelletier, & F. Wesemael.* 82, 505, 56-A7 (1992)
Enhancement of Diffusive Transport in Oscillatory Flows. *E. Knobloch & W. J. Merryfield.* 401, 196, 223-E3 (1992)
An Interpretation of the Spectral Properties of Hot Hydrogen-rich White Dwarfs with Stratified H/He Model Atmospheres. *Stéphane Vennes & Gilles Fontaine.* 401, 288, 224-E7 (1992)
On the Photon Diffusion Time Scale for the Sun. *R. Mitalas & K. R. Sills.* 401, 759, 232-A1 (1992)

EARTH

Big Bang Archeology: WIMP Capture by the Earth at Finite Optical Depth. *Andrew Gould.* 387, 21, 37-C7 (1992)

ECLIPSES

Coronal Density and Temperature Structure from Coordinated Observations Associated with the Total Solar Eclipse of 1988 March 18. *M. Guhathakurta, G. J. Rottman, R. R. Fisher, F. Q. Orrall, & R. C. Altrock.* 388, 633, 58-B1 (1992)
Measurement of the Solar Limb Brightness Profile at 3 Millimeters during the Total Eclipse of 1991 July 11. *L. Belkora, G. J. Hurford, Dale E. Gary, & D. P. Woody.* 400, 692, 219-B1 (1992)

EDITORIALS, NOTICES

The Astrophysical Journal Videotapes. *Helmut A. Abt.* 393, 1, 114-B1 (1992)
Announcement: Some Rate Increases in 1993 Due to Inflation. *Helmut A. Abt.* 396, 1, 155-B1 (1992)

ELEMENTARY PARTICLES

Charged Particle Creation in the Steady State Universe. *Richard L. Liboff.* 384, 12, 1-B10 (1992)
Solar Models with Enhanced Energy Transport in the Core. *J. Christensen-Dalsgaard.* 385, 354, 16-C3 (1992)
Big Bang Archeology: WIMP Capture by the Earth at Finite Optical Depth. *Andrew Gould.* 387, 21, 37-C7 (1992)
Topology of Large-Scale Structure in Seeded Hot Dark Matter Models. *Matthew M. Beaky, Robert J. Scherrer, & Jens V. Villumsen.* 387, 443, 44-C1 (1992)
Photodissociation in Strong Magnetic Fields and Application to Pulsars. *V. B. Bhatia, Namrata Chopra, & N. Panchapakesan.* 388, 131, 50-F1 (1992)
Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)
Cosmological Density of WIMPs from Solar and Terrestrial Annihilations. *Andrew Gould.* 388, 338, 54-E5 (1992)
Can a Closure Mass Neutrino Help Solve the Supernova Shock Reheating Problem? *George M. Fuller, R. Mayle, Bradley S. Meyer, & James R. Wilson.* 389, 517, 67-G10 (1992)
A Description of Semidegenerate Self-gravitating Spheres of Fermions. *M. Membrado, A. F. Pacheco, & J. Sañudo.* 390, 88, 75-B7 (1992)
On the 440 keV Line in the Crab Nebula Pulsar. *W. Bednarek, O. Cremonesi, & A. Treves.* 390, 489, 81-D5 (1992)
He I Absorption by Lyman-Alpha Clouds and Low-Redshift Lyman-Alpha Clouds. *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 392, 15, 101-C1 (1992)
Neutrino Emissivity of an Ultrarelativistic Plasma from Positron and Plasmino Annihilation. *Eric Braaten.* 392, 70, 101-G7 (1992)
Axion Cooling of White Dwarfs. *J. Isern, M. Hernanz, & E. Garcia-Berro.* 392, L23, 106-D1 (1992)
Can Neutrino Decay–driven Mock Gravity Save Hot Dark Matter? *Randall J. Splinter & Adrian L. Melott.* 394, 7, 128-B8 (1992)
Cosmic-Ray Secondary Antiprotons: A Closer Look. *Thomas K. Gaisser & Robert K. Schaefer.* 394, 174, 130-B10 (1992)
Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)
Helium Diffusion in the Sun. *J. N. Bahcall & M. H. Pinsonneault.* 395, L119, 154-D7 (1992)
Relativistic Two-Moment Neutrino Transport. *J. Cernohorsky & Ch. G. van Weert.* 398, 190, 184-C1 (1992)
Dark Matter, Long-Range Forces, and Large-Scale Structure. *Ben-Ami Gradwohl & Joshua A. Frieman.* 398, 407, 189-B8 (1992)
Cosmic Rays from the Galactic Center: Electron and Positron Fluxes in a Modified Model. *Tadeusz Wibig.* 398, 507, 190-D9 (1992)
Nuclear Solid Crust on Rotating Strange Quark Stars. *N. K. Glendenning & F. Weber.* 400, 647, 218-D11 (1992)
Galactic Evolution of D and ^{3}He. *Gary Steigman & Monica Tosi.* 401, 150, 222-G8 (1992)
Strange Quark Contributions to the Nucleon and Neutrino Nucleosynthesis. *E. Kolbe, K. Langanke, S. Krewald, & F. K. Thielemann.* 401, L89, 233-C1 (1992)

EQUATION OF STATE

Standard Solar Model. *D. B. Guenther, P. Demarque, Y.-C. Kim, & M. H. Pinsonneault.* 387, 372, 41-E9 (1992)
The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)
The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)
Determining the Nuclear Equation of State from Neutron-Star Masses and Radii. *Lee Lindblom.* 398, 569, 191-C1 (1992)

ERRATA, ADDENDA

Gravitational Clustering in the Expanding Universe: Controlled High-Resolution Studies in Two Dimensions: Erratum. *John Francis Beacom, Kurt G. Dominik, Adrian L. Melott, Sam P. Perkins, & Sergei F. Shandarin.* 384, 665, 10-D1 (1992) (Orig. paper in 372, 351, 80-B7 (1991))
Six Balmer-dominated Supernova Remnants: Erratum. *R. Chris Smith, Robert P. Kirshner, William P. Blair, & P. Frank Winkler.* 384, 665, 10-D1 (1992) (Orig. paper in 375, 652, 120-G1 (1991))
Infrared Hot Spots in the Nucleus of NGC 253: Erratum. *Duncan A. Forbes, Martin J. Ward, & D. L. DePoy.* 385, L31, 17-D10 (1992) (Orig. paper in 380, L63, 188-C6 (1991))
IC 5063: A Merger Remnant with a Hidden Luminous Active Nucleus: Erratum. *L. Colina, W. B. Sparks, & F. Macchetto.* 385, 766, 22-E13 (1992) (Orig. paper in 370, 102, 48-C5 (1991))
Properties of the SN 1987A Circumstellar Ring and the Distance to the Large Magellanic Cloud: Erratum. *N. Panagia, R. Gilmozzi, F. Macchetto, H.-M. Adorf, & R. P. Kirshner.* 386, L31, 29-E1 (1992) (Orig. paper in 380, L23, 181-D1 (1991))
On the H_2 Line Emission from NGC 6240 and Other Starburst Galaxies: Erratum. *B. T. Draine & D. T. Woods.* 387, 732, 47-G1 (1992) (Orig. paper in 381, 288, 192-E5 (1991))
Models of Voids in the Expanding Universe. II.: Erratum. *W. B. Bonnor & A. Chamorro.* 391, 876, 98-G7 (1992) (Orig. paper in 378, 461, 158-B7 (1991))
A Catalog of Absorption in the Spectra of Quasi-stellar Objects: Erratum (Orig. paper in 77, 203, 47-B1 (1991)). *V. Junkkarinen, A. Hewitt, & G. Burbidge.* 81, 409, 40-F5 (1992) (Orig. paper in 77, 203, 47-B1 (1991))
The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*: Erratum. *Denis Burgarella & Francesco Paresce.* 395, L123, 154-D13 (1992) (Orig. paper in 389, L29, 66-D10 (1992))
Atomic Data for Resonance Absorption Lines. I. Wavelengths Longward of the Lyman Limit: Erratum. *Donald C. Morton.* 81, 883, 48-C9 (1992) (Orig. paper in 77, 119, 45-B1 (1991))
X-Ray-heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations: Erratum. *Suzanne L. Hawley &*

George H. Fisher. 81, 885, 48-D1 (1992) (Orig. paper in 78, 565, 10-F1 (1992))

The Evolution of Low-Mass Close Binary Systems. V. Transport Processes in the Envelopes of Contact Components: Erratum. *Ronald F. Webbink.* 396, 378, 159-G3 (1992) (Orig. paper in 215, 851, 69-E2 (1977))

Hard X-Ray Observation of Scorpius X-1: Erratum. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 396, 378, 159-G3 (1992) (Orig. paper in 386, 710, 34-B4 (1992))

Molecular Gas in Elliptical Galaxies: Erratum. *Joanna F. Lees, G. R. Knapp, Michael P. Rupen, & T. G. Phillips.* 396, 741, 166-E1 (1992) (Orig. paper in 379, 177, 165-B11 (1991))

Three-dimensional Compressible Hydrodynamic Convection in the Sun and Stars: Erratum. *Murshed Hossain & D. J. Mullan.* 397, 353, 172-C5 (1992) (Orig. paper in 380, 631, 186-A10 (1991))

The Broad Emission Line Profiles and Profile Variability of the Seyfert 1 Galaxy Arakelian 120: Erratum. *Kirk T. Korista.* 82, 445, 55-G5 (1992) (Orig. paper in 79, 285, 18-C7 (1992))

Ring Structure in Disk Galaxies: Erratum. *C. E. Zaspel.* 397, 736, 180-C6 (1992) (Orig. paper in 385, 83, 13-A11 (1992))

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068: Erratum. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 397, L127, 181-F12 (1992) (Orig. paper in 394, L37, 139-B7 (1992))

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei: Erratum. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 399, 330, 199-E1 (1992) (Orig. paper in 384, 269, 4-C7 (1992))

Cross-Correlation of the X-Ray Background with Nearby Galaxies: Erratum. *Keith Jahoda, Ofer Lahav, Richard F. Mushotzky, & Elihu Boldt.* 399, L107, 201-E8 (1992) (Orig. paper in 378, L37, 162-D7 (1991))

VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 399, 743, 207-C1 (1992) (Orig. paper in 392, 249, 104-A9 (1992))

Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *J. Martín-Pintado & R. Bachiller.* 401, L47, 227-G1 (1992) (Orig. paper in 391, L93, 99-G12 (1992))

GALAXIES: ABUNDANCES

The Abundance Gradients across the Spiral Galaxies NGC 628 and NGC 6946. *Julien Belley & Jean-René Roy.* 78, 61, 2-C7 (1992)

Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

The Radial Distribution of Oxygen in Disk Galaxies. *Dennis Zaritsky.* 390, L73, 84-G7 (1992)

The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)

X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

The Influence of Dark Matter on the Chemical Evolution of Elliptical Galaxies. *Francesca Matteucci.* 397, 32, 168-D9 (1992)

The Oxygen Abundance Gradient in the Barred Spiral Galaxy NGC 4303. *Pierre Martin & Jean-René Roy.* 397, 463, 176-D13 (1992)

O-Star Photoionization Models of Liners with Weak [O I] λ6300 Emission. *Alexei V. Filippenko & Roberto Terlevich.* 397, L79, 181-A1 (1992)

Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)

Stellar Population Gradients in Early-Type Galaxies. *Jeffrey A. Munn.* 399, 444, 203-E1 (1992)

Observations of Zn II, Cr II, Fe II, and Ca II in the Damped Lyman-Alpha Absorber at $z = 0.692$ toward 3C 286. *David M. Meyer & Donald G. York.* 399, L121, 207-G7 (1992)

On Determining the Primordial Helium Abundance from the Spectra of H II Galaxies. *Alison Campbell.* 401, 157, 223-A1 (1992)

GALAXIES: ACTIVE

The Lyα/Hα Ratio in High-Redshift Radio Galaxies. *Patrick J. McCarthy, Richard Elston, & Peter Eisenhardt.* 387, L29, 43-D1 (1992)

Coronal Lines and Starburst Features in Two New *IRAS* Active Galactic Nuclei: IRAS 04493−6441 and IRAS 22419−6049. *Sebastian Lípari & F. Macchetto.* 387, 522, 45-B9 (1992)

A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*. *O. R. Williams, M. J. L. Turner, G. C. Stewart, R. D. Saxton, T. Ohashi, K. Makishima, T. Kii, H. Inoue, F. Makino, K. Hayashida, & K. Koyama.* 389, 157, 62-A5 (1992)

Intrinsically Asymmetric Astrophysical Jets. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 390, 46, 74-F1 (1992)

Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)

Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

A VLBI Search for AGN Radio Cores in Starburst Galaxies. *Colin J. Lonsdale, Carol J. Lonsdale, & Harding E. Smith.* 391, 629, 95-G6 (1992)

A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

Comment on Red Giant Envelopes as Broad Emission-Line Clouds in Active Galactic Nuclei. *John Kwan, F. Z. Cheng, & Zongwei Li.* 393, 87, 115-B9 (1992)

The Spatial Distribution of Active Galactic Nuclei. I. The Density of Seyfert Galaxies and Liners. *John Huchra & Richard Burg.* 393, 90, 115-C1 (1992)

Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

The Stability of QSO/AGN Broad Emission Line Clouds. *I. S. Krinsky & R. C. Puetter.* 394, 472, 135-C1 (1992)

Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275. *Eric P. Smith, Robert W. O'Connell, Ralph C. Bohlin, Kwang-Ping Cheng, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Paul Hintzen, Wayne B. Landsman, Susan G. Neff, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L49, 145-D9 (1992)

Infrared Emission in Seyfert 2 Galaxies: Reprocessed Radiation from a Dusty Torus? *Thaisa Storchi-Bergmann, John S. Mulchaey, & Andrew S. Wilson.* 395, L73, 153-F12 (1992)

Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

IRAS 03202−5150: A New Ring Active Galactic Nucleus with Obscured Seyfert 1 Nucleus. *Sebastian Lípari & F. Macchetto.* 397, 126, 169-E6 (1992)

O-Star Photoionization Models of Liners with Weak [O I] λ6300 Emission. *Alexei V. Filippenko & Roberto Terlevich.* 397, L79, 181-A1 (1992)

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

Radiation-Pressure–supported Obscuring Tori around Active Galactic Nuclei. *Edward A. Pier & Julian H. Krolik.* 399, L23, 200-B8 (1992)

Infrared Fine-Structure Line Diagnostics of Shrouded Active Galactic Nuclei. *G. Mark Voit.* 399, 495, 204-B1 (1992)

Infrared Line Diagnostics of Active Galactic Nuclei. *Luigi Spinoglio & Matthew A. Malkan.* 399, 504, 204-B11 (1992)

Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

Search for Partial Systemic Lyman Edges in Nearby Quasars. *A. P. Koratkar, A. L. Kinney, & R. C. Bohlin.* 400, 435, 215-F9 (1992)

Radiative Acceleration by Synchrotron Sources. *G. Ghisellini, G. Bodo, & E. Trussoni.* 401, 87, 222-B5 (1992)

Infrared Spectra of Obscuring Dust Tori around Active Galactic Nuclei. I. Calculational Method and Basic Trends. *Edward A. Pier & Julian H. Krolik.* 401, 99, 222-C5 (1992)

Infrared Lines from Active Galactic Nuclei: A Theoretical Approach. *Marcella Contini & Sueli M. Viegas.* 401, 481, 228-F3 (1992)

High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

Hubble Space Telescope Imaging of Distant Galaxies: 4C 41.17 at $z = 3.8$. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

GALAXIES: BL LACERTAE OBJECTS: GENERAL

Optical and Radio Variability in Blazars. *Beth R. Hufnagel & Joel N. Bregman.* 386, 473, 31-C5 (1992)

A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

A Survey of Ultraviolet Variability in Blazars. *Rick Edelson.* 401, 516, 229-B1 (1992)

GALAXIES: BL LACERTAE OBJECTS: INDIVIDUAL

Name: Markarian 421

Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*. *Y. C. Lin, D. L. Bertsch, J. Chiang, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, P. L. Nolan, K. Pinkau, E. Schneid, P. Sreekumar, & D. J. Thompson.* 401, L61, 232-F9 (1992)

Alphanumeric: 0235+164

The Kinematics of Intermediate-Redshift Gaseous Galaxy Halos. *Kenneth M. Lanzetta & David V. Bowen.* 391, 48, 86-E14 (1992)

Alphanumeric: 1E 141516+2557

The BL Lacertae Object 1E 1415.6+2557: Host Galaxy, Possible Optical Jet, and Environment. *W. Romanishin.* 401, L65, 232-G1 (1992)

Alphanumeric: PKS 1413+135

Discovery of Neutral Hydrogen 21 Centimeter Absorption at Redshift 0.25 toward PKS 1413+135. *C. L. Carilli, Eric S. Perlman, & John T. Stocke.* 400, L13, 214-C1 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

Alphanumeric: PKS 2155−304

The Optical Variability of PKS 2155−304. *Michael T. Carini & H. Richard Miller.* 385, 146, 13-G1 (1992)

Intensive Optical Monitoring of the BL Lacertae Object PKS 2155−304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

GALAXIES: CLUSTERING

Relaxation-driven Binary Mergers. *Sergio Gelato, David F. Chernoff, & Ira Wasserman.* 384, 15, 1-C1 (1992)

The Distribution of Galaxies within the "Great Wall." *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 384, 396, 7-B7 (1992)

The Distribution of Nearby Rich Clusters of Galaxies. *Marc Postman, John P. Huchra, & Margaret J. Geller.* 384, 404, 7-C1 (1992)

Primordial Gaussian Perturbation Fields: Constrained Realizations. *Yehuda Hoffman & Erez Ribak.* 384, 448, 7-F9 (1992)

The Topology of Large-Scale Structure. V. Two-dimensional Topology of Sky Maps. *J. Richard Gott III, Shude Mao, Changbom Park, & Ofer Lahav.* 385, 26, 12-D1 (1992)

Velocity Differences in Binary Galaxies. I. Suggestions for a Non-monotonic, Two-Component Distribution. *Stephen E. Schneider & Edwin E. Salpeter.* 385, 32, 12-D8 (1992)

Distant Cooling Flows. *Megan Donahue, John T. Stocke, & Isabella M. Gioia.* 385, 49, 12-E13 (1992)

Measuring Omega and the Real Correlation Function from the Redshift Correlation Function. *A. J. S. Hamilton.* 385, L5, 17-B1 (1992)

Spectroscopy of Galaxies in Distant Clusters. IV. A Catalog of Photometry and Spectroscopy for Galaxies in Seven Clusters with $0.35 < z < 0.55$. *Alan Dressler & James E. Gunn.* 78, 1, 1-B1 (1992)

A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

Two-Component Gravitating Systems and Red Giant–like Structure. *Masayuki Y. Fujimoto & Kohji Tomisaka.* 385, 445, 18-F10 (1992)

The Clustering of Radio Galaxies. *Neta A. Bahcall & Arati Chokshi.* 385, L33, 23-B1 (1992)

Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and N-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

The Angular Correlation of Quasars and Abell Clusters. *Roger W. Romani & Dan Maoz.* 386, 36, 24-E3 (1992)

The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

The Distribution of cD Galaxy Peculiar Velocities. *Eliot M. Malumuth.* 386, 420, 30-E13 (1992)

Abundance of Rich Clusters of Galaxies: A Test for Cosmological Parameters. *Per B. Lilje.* 386, L33, 36-B1 (1992)

The Coherence Length of the Peculiar Velocity Field in the Universe and the Large-Scale Galaxy Correlation Data. *A. Kashlinsky.* 386, L37, 36-B6 (1992)

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

On the Dynamical Evolution of Rich Galaxy Clusters. *G. Yepes & R. Domínguez-Tenreiro.* 387, 27, 37-D1 (1992)

Constraints on the Power Spectrum of the Primordial Density Field from Large-Scale Data: Microwave Background and Predictions of Inflation. *A. Kashlinsky.* 387, L1, 43-A8 (1992)

A Deficiency of Large-Scale Pairs among Nearby Quasars. *Robert C. Roeder.* 387, L13, 43-B8 (1992)

Large-Scale Structure in Isocurvature Baryon Models. *Tatsushi Suginohara & Yasushi Suto.* 387, 431, 44-B1 (1992)

Topology of Large-Scale Structure in Seeded Hot Dark Matter Models. *Matthew M. Beaky, Robert J. Scherrer, & Jens V. Villumsen.* 387, 443, 44-C1 (1992)

On Modeling a Relativistic Hierarchical (Fractal) Cosmology by Tolman's Spacetime. I. Theory. *Marcelo B. Ribeiro.* 388, 1, 49-B1 (1992)

Possible Geometric Patterns in 0.1*c* Scale Structure. *R. Brent Tully, Roberto Scaramella, Giampaolo Vettolani, & Giovanni Zamorani.* 388, 9, 49-B10 (1992)

Wavelet Analysis of Subclustering: An Illustration, Abell 754. *Eric Escalera & Alain Mazure.* 388, 23, 49-C12 (1992)

A Huge H I Cloud near a Galaxy Pair. *G. Lyle Hoffman, E. E. Salpeter, C. Lamphier, & T. Roos.* 388, L5, 52-A11 (1992)

Cosmic Background Radiation Anisotropies from Cosmic Structures: Models Based on the Tolman Solution. *Mirosław Panek.* 388, 225, 53-B4 (1992)

The Largest Possible Voids. *G. R. Blumenthal, L. Nicolaci da Costa, D. S. Goldwirth, M. Lecar, & T. Piran.* 388, 234, 53-C1 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

The Mass Distribution Function of Groups of Galaxies. *A. Pisani, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 389, 68, 61-A1 (1992)

Large-Scale Structure in a Low-Bias Universe. *H. M. P. Couchman & R. G. Carlberg.* 389, 453, 67-B6 (1992)

Clustering of Galaxy Clusters. I. Is the Spatial Cluster-Cluster Correlation Function Enhanced Significantly by Contaminations? *Yi-Peng Jing, Manolis Plionis, & Riccardo Valdarnini.* 389, 499, 67-F3 (1992)

The Efficiency of Galaxy Formation in Clusters. *Laurence P. David & George R. Blumenthal.* 389, 510, 67-G1 (1992)

X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

The Large-Scale Galaxy Distribution in the Southern Sky Redshift Survey. *S. Maurogordato, R. Schaeffer, & L. N. da Costa.* 390, 17, 74-C7 (1992)

Spatial Correlations in a Redshift Survey of APM Galaxy Clusters. *G. B. Dalton, G. Efstathiou, S. J. Maddox, & W. J. Sutherland.* 390, L1, 78-A8 (1992)

A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

Cluster Correlations from *N*-Point Correlation Amplitudes. *I. Szapudi, A. S. Szalay, & P. Boschán.* 390, 350, 79-E7 (1992)

Using Arcs in Clusters of Galaxies as Probes to Cluster Potentials and the Faint Blue Galaxies. *Jordi Miralda-Escudé.* 390, L65, 84-F7 (1992)

The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution. *Edward J. Shaya, R. Brent Tully, & Michael J. Pierce.* 391, 16, 86-C5 (1992)

Large-Scale Clustering of Galaxies in the CfA Redshift Survey. *Michael S. Vogeley, Changbom Park, Margaret J. Geller, & John P. Huchra.* 391, L5, 91-G1 (1992)

The Rate of Gravitational Galaxy Clustering. *William C. Saslaw.* 391, 423, 93-B4 (1992)

Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

Statistics of Pencil Beams in Voronoi Foams. *Mark U. SubbaRao & Alexander S. Szalay.* 391, 483, 93-G12 (1992)

Lyα Emission from Cooling Flows and Measures of the Dust Content of Rich Clusters of Galaxies. *Esther M. Hu.* 391, 608, 95-E7 (1992)

Merging in Cosmic Structures. *A. Cavaliere, S. Colafrancesco, & N. Menci.* 392, 41, 101-E1 (1992)

Gravitational Field Fluctuations in Weakly Clustered Systems. *V. Antonuccio-Delogu & F. Atrio-Barandela.* 392, 403, 107-C12 (1992)

The Cluster Correlation Function: Consistent Results from an Automated Survey. *Neta A. Bahcall & Michael J. West.* 392, 419, 107-E1 (1992)

Observations of 10 Faint Quasar Candidates in the Field of the Tololo 1037−2703/1038−2712 Quasar Pair. *Peter Jakobsen & M. A. C. Perryman.* 392, 432, 107-F3 (1992)

On the Error Estimates of Correlation Functions. *H. J. Mo, Y. P. Jing, & G. Börner.* 392, 452, 107-G13 (1992)

Large-Scale Structure in the Southern Sky Redshift Survey. *Changbom Park, J. Richard Gott III, & L. Nicolaci da Costa.* 392, L51, 113-B6 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution: Distances, Model, and the Local Velocity Anomaly. *R. Brent Tully, Edward J. Shaya, & Michael J. Pierce.* 80, 479, 30-B1 (1992)

A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

Statistical Methods for Investigating Periodicities in Double-Galaxy Redshifts. *W. J. Cocke.* 393, 59, 114-G1 (1992)

The Distribution of Rich Clusters of Galaxies in the South Galactic Pole Region. *Luigi Guzzo, Chris A. Collins, Robert C. Nichol, & Stuart L. Lumsden.* 393, L5, 120-B1 (1992)

The Void Spectrum in Two-dimensional Numerical Simulations of Gravitational Clustering. *Guinevere Kauffmann & Adrian L. Melott.* 393, 415, 121-B1 (1992)

The Three-Point Function in an Ensemble of Numerical Simulations. *J. N. Fry, Adrian L. Melott, & Sergei F. Shandarin.* 393, 431, 121-C5 (1992)

Percolation Analysis of Nonlinear Structures in Scale-free Two-dimensional Simulations. *Kurt G. Dominik & Sergei F. Shandarin.* 393, 450, 121-E1 (1992)

On Formation of the Superlarge Structure in the Universe. *Olga E. Buryak, Marek Demiański, & Andrej G. Doroshkevich.* 393, 464, 121-F1 (1992)

A Lower Limit on the Cosmic Mean Density from the Ages of Clusters of Galaxies. *D. Richstone, A. Loeb, & E. L. Turner.* 393, 477, 121-G1 (1992)

High-Resolution Imaging of Virgo Cluster Galaxies. I. The Distance Based on the Brightest Stars in NGC 4571. *Michael J. Pierce, Robert D. McClure, & René Racine.* 393, 523, 122-C9 (1992)

Color Gradients in Cooling Flows in Clusters of Galaxies. *Brian R. McNamara & Robert W. O'Connell.* 393, 579, 123-B1 (1992)

Does Faint Galaxy Clustering Contradict Gravitational Instability? *Adrian L. Melott.* 393, L45, 127-B1 (1992)

Can Neutrino Decay–driven Mock Gravity Save Hot Dark Matter? *Randall J. Splinter & Adrian L. Melott.* 394, 7, 128-B8 (1992)

Thick Strings, the Liquid Crystal Blue Phase, and Cosmological Large-Scale Structure. *Xiaochun Luo & David N. Schramm.* 394, 12, 128-C1 (1992)

Hubble Flows in the Pisces-Perseus Region from the Giovanelli-Haynes Galaxy Sample. *T. Ichikawa & M. Fukugita.* 394, 61, 128-G5 (1992)

The Unusual Field of the Quasar 3C 336: Identification of Three Foreground Mg II Absorbing Galaxies. *Charles C. Steidel & Mark Dickinson.* 394, 81, 129-A13 (1992)

Higher Order Correlations of *IRAS* Galaxies. *Avery Meiksin, Istvan Szapudi, & Alexander Szalay.* 394, 87, 129-B6 (1992)

Previrialization. *August E. Evrard & Mary M. Crone.* 394, L1, 133-A7 (1992)

Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

Cospatial Counterrotating Stellar Disks in the Virgo E7/S0 Galaxy NGC 4550. *Vera C. Rubin, J. A. Graham, & Jeffrey D. P. Kenney.* 394, L9, 133-B7 (1992)

I-Band CCD Surface Photometry of Spiral Galaxies in 16 Nearby Clusters. *Mingsheng Han.* 81, 35, 35-E5 (1992)

Multifractal Properties of Cosmological *N*-Body Simulations. *Riccardo Valdarnini, Stefano Borgani, & Antonello Provenzale.* 394, 422, 134-E7 (1992)

Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

Semiempirical Limits on the Thermal Conductivity of Intracluster Gas. *Laurence P. David, John P. Hughes, & Wallace H. Tucker.* 394, 452, 135-A7 (1992)

The Large-Scale Velocity Field beyond the Local Supercluster. *Mingsheng Han.* 395, 75, 141-A9 (1992)

Reproducing the Local and Global Morphological Segregation between S and S0 Galaxies in Rich Clusters by Simple Ram-Pressure Stripping. *José M. Solanes & Eduardo Salvador-Solé.* 395, 91, 141-C1 (1992)

Characteristic-based Models for the Evolution of Cooling Flows. *Stephen D. Murray & Steven A. Balbus.* 395, 99, 141-C11 (1992)

Arcminute Fluctuations in the Microwave Background from Clusters of Galaxies. *M. Markevitch, G. R. Blumenthal, W. Forman, C. Jones, & R. A. Sunyaev.* 395, 326, 146-C1 (1992)

The Angular Three-Point Function of Galaxy Clusters. *Stefano Borgani, Yipeng Jing, & Manolis Plionis.* 395, 339, 146-D5 (1992)

The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)

Interpretation of the Cosmic Microwave Background Radiation Anisotropy Detected by the *COBE* Differential Microwave Radiometer. *E. L. Wright, S. S. Meyer, C. L. Bennett, N. W. Boggess, E. S. Cheng, M. G. Hauser, A. Kogut, C. Lineweaver, J. C. Mather, G. F. Smoot, R. Weiss, S. Gulkis, G. Hinshaw, M. Janssen, T. Kelsall, P. M. Lubin, S. H. Moseley, Jr., T. L. Murdock, R. A. Shafer, R. F. Silverberg, & D. T. Wilkinson.* 396, L13, 160-D1 (1992)

Biasing and Distribution Functions for Different Galaxy Types in Optical and *IRAS* Catalogs. *Ofer Lahav & William C. Saslaw.* 396, 430, 162-G1 (1992)

The Intrinsic Shapes of Elliptical Galaxies. *Barbara S. Ryden.* 396, 445, 163-A5 (1992)

Peculiar Velocities of Clusters in the Perseus-Pisces Supercluster. *M. Han & J. R. Mould.* 396, 453, 163-B1 (1992)

String-induced Density Perturbations in Hot Dark Matter. *Dan N. Vollick.* 397, 14, 168-C1 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

Optical Identification, Radio Galaxy Environment, and Statistical Properties for a Homogeneous Sample of 3196 Radio Sources from the Texas Survey. *Elizabeth P. Bozyan.* 82, 1, 49-B1 (1992)

Clusters in Collision? *M. P. Ulmer, G. D. Wirth, & M. P. Kowalski.* 397, 430, 176-A9 (1992)

High-Energy X Emission from the Coma Cluster. *Yoel Rephaeli & Oleg Goldshmidt.* 397, 438, 176-B6 (1992)

Clustering of Galaxy Clusters. II. Rare Events in the Cluster Distribution. *Manolis Plionis, Riccardo Valdarnini, & Yi-Peng Jing.* 398, 12, 182-C1 (1992)

Structure Formation in a Universe with Cold Plus Hot Dark Matter. *Anthony van Dalen & Robert K. Schaefer.* 398, 33, 182-D9 (1992)

The X-Ray Spectrum of Abell 665. *John P. Hughes & Yasuo Tanaka.* 398, 62, 182-G1 (1992)

The Evolution of Quasar Clustering. *Paola Andreani & Stefano Cristiani.* 398, L13, 187-C1 (1992)

N-Point Correlation Functions in the CfA and SSRS Redshift Distribution of Galaxies. *Enrique Gaztañaga.* 398, L17, 187-C7 (1992)

The Shape of the Two-Point Correlation Function: Evidence for a Double Power Law. *Daniela Calzetti, Mauro Giavalisco, & Avery Meiksin.* 398, 429, 189-D7 (1992)

A Study of the Velocity Field in the Local Supercluster Based on a New Peculiar-Velocity Sample. *Kazuhiro Shimasaku & Sadanori Okamura.* 398, 441, 189-E9 (1992)

Galaxy Clusters and Cold Dark Matter: A Low-Density Unbiased Universe? *Neta A. Bahcall & Renyue Cen.* 398, L81, 194-B6 (1992)

The Estimation of Absolute Magnitude and Distance from the Tully-Fisher Relation. *Geoffrey V. Bicknell.* 399, 1, 195-B1 (1992)

Void Probability Function in the Southern Sky Redshift Survey. *Marc Lachièze-Rey, Luiz Nicolaci da Costa, & Sophie Maurogordato.* 399, 10, 195-B13 (1992)

Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

Angular Correlation Function of Faint Galaxies. *C. J. Pritchet & L. Infante.* 399, L35, 200-C13 (1992)

Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

H I Imaging of Four Quasar-Galaxy Pairs: The Parent Galaxies of Low-Redshift Quasar Absorption Systems. *C. L. Carilli & J. H. van Gorkom.* 399, 373, 202-E7 (1992)

Filamentary and Hierarchical Pictures: Kinetic Energy Criterion. *Anatoly A. Klypin & Adrian L. Melott.* 399, 397, 203-A1 (1992)

Galaxy Formation and Physical Bias. *Renyue Cen & Jeremiah P. Ostriker.* 399, L113, 207-F7 (1992)

An Arc System with a Radial Gravitational Image in the Cluster MS 2137−23. *B. Fort, O. Le Fevre, F. Hammer, & M. Cailloux.* 399, L125, 208-A1 (1992)

Gravity and Count Probabilities in an Expanding Universe. *François R. Bouchet & Lars Hernquist.* 400, 25, 209-C13 (1992)

The Stellar Content of Central Dominant Galaxies. II. Colors of cD Envelopes. *Glen Mackie.* 400, 65, 209-G1 (1992)

The Asymmetric Distribution of Satellite Galaxy Velocities. *Dennis Zaritsky.* 400, 74, 209-G12 (1992)

X-Ray Constraints on the Shape of the Dark Matter in Five Abell Clusters. *David A. Buote & Claude R. Canizares.* 400, 385, 215-B3 (1992)

The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 400, 398, 215-C5 (1992)

A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)

Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)

Non–Self-similar Clustering of Galaxies. *Mirt Gramann.* 401, 19, 221-C7 (1992)

A Quantitative Measure of Structure in the Three-dimensional Galaxy Distribution: Sheets and Filaments. *Arif Babul & Glenn D. Starkman.* 401, 28, 221-D3 (1992)

The Scaling Analysis as a Tool to Compare *N*-Body Simulations with Observations: Application to a Low-Bias Cold Dark Matter Model. *G. Yepes, R. Domínguez-Tenreiro, & H. M. P. Couchman.* 401, 40, 221-E3 (1992)

Are Cluster Ellipticals the Products of Mergers? *Gary A. Mamon.* 401, L3, 227-A10 (1992)

A Simple Multifractal Model of Nonlinear Gravitational Clustering. *Antonello Provenzale, Piero Galeotti, Giuseppe Murante, & Barbara Villone.* 401, 455, 228-D1 (1992)

The CFHT North Galactic Pole Faint Galaxy Survey. *L. Infante & C. J. Pritchet.* 83, 237, 61-B1 (1992)

GALAXIES: COOLING FLOWS

Distant Cooling Flows. *Megan Donahue, John T. Stocke, & Isabella M. Gioia.* 385, 49, 12-E13 (1992)

Turbulence in Cooling Flows. *Catherine F. Westbury & R. N. Henriksen.* 388, 64, 49-G12 (1992)

Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

Formation of a Giant Galactic Gaseous Halo: Metal Absorption Lines and High-Velocity Clouds. *Fan Li & Satoru Ikeuchi.* 390, 405, 80-D7 (1992)

Lyα Emission from Cooling Flows and Measures of the Dust Content of Rich Clusters of Galaxies. *Esther M. Hu.* 391, 608, 95-E7 (1992)

Color Gradients in Cooling Flows in Clusters of Galaxies. *Brian R. McNamara & Robert W. O'Connell.* 393, 579, 123-B1 (1992)

Semiempirical Limits on the Thermal Conductivity of Intracluster Gas. *Laurence P. David, John P. Hughes, & Wallace H. Tucker.* 394, 452, 135-A7 (1992)

Characteristic-based Models for the Evolution of Cooling Flows. *Stephen D. Murray & Steven A. Balbus.* 395, 99, 141-C11 (1992)

Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

The Influence of Dark Matter on the Chemical Evolution of Elliptical Galaxies. *Francesca Matteucci.* 397, 32, 168-D9 (1992)

First-Order Fermi Acceleration in Spherically Symmetric Flows: Solutions Including Quadratic Losses. *Peter A. Becker.* 397, 88, 169-B6 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

Mergers, Cooling Flows, and Evaporation. *W. B. Sparks.* 399, 66, 196-A5 (1992)

GALAXIES: DISTANCES AND REDSHIFTS

Do the Redshifts of Gravitational Lens Galaxies Rule Out a Large Cosmological Constant? *Christopher S. Kochanek.* 384, 1, 1-A11 (1992)

Statistical Tests of Peaks and Periodicities in the Observed Redshift Distribution of Quasi-stellar Objects. *Debiprosad Duari, Patrick Das Gupta, & Jayant V. Narlikar.* 384, 35, 1-D9 (1992)

The Distribution of Galaxies within the "Great Wall." *Massimo Ramella, Margaret J. Geller, & John P. Huchra.* 384, 396, 7-B7 (1992)

The Distribution of Nearby Rich Clusters of Galaxies. *Marc Postman, John P. Huchra, & Margaret J. Geller.* 384, 404, 7-C1 (1992)

Velocity Differences in Binary Galaxies. I. Suggestions for a Non-monotonic, Two-Component Distribution. *Stephen E. Schneider & Edwin E. Salpeter.* 385, 32, 12-D8 (1992)

Spectroscopy of Galaxies in Distant Clusters. IV. A Catalog of Photometry and Spectroscopy for Galaxies in Seven Clusters with $0.35 < z < 0.55$. *Alan Dressler & James E. Gunn.* 78, 1, 1-B1 (1992)

The Magnitude-Redshift Relation. *Allen I. Janis.* 385, 391, 18-B1 (1992)

A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

Velocity Dipoles in Cold Dark Matter Cosmologies. *Giuseppe Tormen, Francesco Lucchin, & Sabino Matarrese.* 386, 1, 24-B1 (1992)

Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

A New Tidal Model of the Magellanic Stream. *W. L. H. Shuter.* 386, 101, 25-D1 (1992)

Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Compact Steep Spectrum Sources and Linear Size Evolution. *L. I. Onuora.* 386, 452, 31-A7 (1992)

A Study of a 21 Centimeter–selected Sample of Galaxies. I. The Survey. *P. A. Henning.* 78, 365, 7-D3 (1992)

Luminosity–Line Width Relations and the Extragalactic Distance Scale. I. Absolute Calibration. *Michael J. Pierce & R. Brent Tully.* 387, 47, 37-E8 (1992)

Line Fluorescence from the Ring around SN 1987A. *Eli Dwek & James E. Felten.* 387, 551, 45-E1 (1992)

Systematic QSO Emission-Line Velocity Shifts and New Unbiased Redshifts. *David Tytler & Xiao-Ming Fan.* 79, 1, 12-B1 (1992)

Peculiar Velocities of Field Spiral Galaxies near and beyond the Great Attractor. *Gregory D. Bothun, Robert A. Schommer, T. B. Williams, Jeremy R. Mould, & J. P. Huchra.* 388, 253, 53-D10 (1992)

Planetary Nebulae as Standard Candles. VIII. Evidence for a Change in the Luminosity Function Cutoff at Low Metallicity. *Robin Ciardullo & George H. Jacoby.* 388, 268, 53-F1 (1992)

A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

No Back-Side Infall into the Great Attractor. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 389, L5, 66-B6 (1992)

Systematic Differences between the Field and Cluster Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 389, L49, 73-B11 (1992)

H I Observations of Galaxies in the Hercules Supercluster. II. Additional UGC Galaxies and Galaxies in Selected CGCG Fields. *Wolfram Freudling, Martha P. Haynes, & Riccardo Giovanelli.* 79, 157, 16-B1 (1992)

Properties of the Redshift. IV. Reference Data. *W. G. Tifft.* 79, 183, 16-D13 (1992)

The Continuum Model in Astrophysics. *Richard L. Liboff.* 390, 1, 74-B1 (1992)

Relation of Redshift Surveys to Matter Distribution in Spherically Symmetric Dust Universes. *Hannu Kurki-Suonio & Edison Liang.* 390, 5, 74-B7 (1992)

The Luminosity of Supernovae of Type Ia. I. Apparent Magnitudes at Maximum Light. *Sidney van den Bergh & John Pazder.* 390, 34, 74-D13 (1992)

Linear Velocity Fields in Non-Gaussian Models for Large-Scale Structure. *Robert J. Scherrer.* 390, 330, 79-C10 (1992)

The Stromlo–APM Redshift Survey. I. The Luminosity Function and Space Density of Galaxies. *J. Loveday, B. A. Peterson, G. Efstathiou, & S. J. Maddox.* 390, 338, 79-D5 (1992)

An Absolute Calibration of Type Ia Supernovae and the Value of H_0. *Michael J. Pierce, Michael E. Ressler, & Mark S. Shure.* 390, L45, 84-D1 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution. *Edward J. Shaya, R. Brent Tully, & Michael J. Pierce.* 391, 16, 86-C5 (1992)

The Structure of Southern Extragalactic Radio Sources. *Paul A. Jones & W. Bruce McAdam.* 80, 137, 24-C3 (1992)

Statistics of Pencil Beams in Voronoi Foams. *Mark U. SubbaRao & Alexander S. Szalay.* 391, 483, 93-G12 (1992)

A General Analytical Solution to the Problem of Malmquist Bias Due to Lognormal Distance Errors. *Stephen D. Landy & Alexander S. Szalay.* 391, 494, 94-A11 (1992)

Elongated Disks and the Scatter in the Tully-Fisher Relation. *Marijn Franx & Tim de Zeeuw.* 392, L47, 113-B1 (1992)

Nearby Galaxy Flows Modeled by the Light Distribution: Distances, Model, and the Local Velocity Anomaly. *R. Brent Tully, Edward J. Shaya, & Michael J. Pierce.* 80, 479, 30-B1 (1992)

Statistical Methods for Investigating Periodicities in Double-Galaxy Redshifts. *W. J. Cocke.* 393, 59, 114-G1 (1992)

High-Resolution Imaging of Virgo Cluster Galaxies. I. The Distance Based on the Brightest Stars in NGC 4571. *Michael J. Pierce, Robert D. McClure, & René Racine.* 393, 523, 122-C9 (1992)

The Tully-Fisher Relation for the CO Line. *John M. Dickey & Ilya Kazès.* 393, 530, 122-D5 (1992)

Large-Scale Radial Velocity Correlations as a Test of Gaussian Initial Conditions. *Stephen D. Landy & Alexander S. Szalay.* 394, 25, 128-D1 (1992)

On Distances and the Hubble Parameter Determination in Gravitational Lenses. *Kazuya Watanabe, Misao Sasaki, & Kenji Tomita.* 394, 38, 128-E1 (1992)

Hubble Flows in the Pisces-Perseus Region from the Giovanelli-Haynes Galaxy Sample. *T. Ichikawa & M. Fukugita.* 394, 61, 128-G5 (1992)

The Unusual Field of the Quasar 3C 336: Identification of Three Foreground Mg II Absorbing Galaxies. *Charles C. Steidel & Mark Dickinson.* 394, 81, 129-A13 (1992)

Identification and Spectroscopy of Radio Sources from the Third Bologna Survey. *D. J. Thompson, S. Djorgovski, M. Vigotti, & G. Grueff.* 81, 1, 35-B1 (1992)

Northern Dwarf and Low Surface Brightness Galaxies. II. The Green Bank Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Jeffrey G. Mangum, & John Miller.* 81, 5, 35-B13 (1992)

The Large-Scale Velocity Field beyond the Local Supercluster. *Mingsheng Han.* 395, 75, 141-A9 (1992)

The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

New Constraints and Improvements on Oscillating Physics. *Robert G. Crittenden & Paul J. Steinhardt.* 395, 360, 146-F9 (1992)

A Southern Sky Survey of the Peculiar Velocities of 1355 Spiral Galaxies. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 81, 413, 41-B1 (1992)

Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)

New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

Peculiar Velocities of Clusters in the Perseus-Pisces Supercluster. *M. Han & J. R. Mould.* 396, 453, 163-B1 (1992)

Cold Dark Matter versus Baryon-dominated Universes: Comparison with Peculiar Velocity and Acceleration Measurements. *Paola Del Grande & Nicola Vittorio.* 397, 26, 168-D1 (1992)

Gravitational Lenses in Redshift Surveys. *Christopher S. Kochanek.* 397, 381, 175-D6 (1992)

A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)

A Study of the Velocity Field in the Local Supercluster Based on a New Peculiar-Velocity Sample. *Kazuhiro Shimasaku & Sadanori Okamura.* 398, 441, 189-E9 (1992)

The Estimation of Absolute Magnitude and Distance from the Tully-Fisher Relation. *Geoffrey V. Bicknell.* 399, 1, 195-B1 (1992)

A Simple Test of Independence for Truncated Data with Applications to Redshift Surveys. *Bradley Efron & Vahé Petrosian.* 399, 345, 202-C1 (1992)

Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

The Asymmetric Distribution of Satellite Galaxy Velocities. *Dennis Zaritsky.* 400, 74, 209-G12 (1992)

A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

A Spatial, Kinematical, and Dynamical Analysis of Abell 400. *Timothy C. Beers, Karl Gebhardt, John P. Huchra, William Forman, Christine Jones, & Gregory D. Bothun.* 400, 410, 215-D6 (1992)

The CFHT North Galactic Pole Faint Galaxy Survey. *L. Infante & C. J. Pritchet.* 83, 237, 61-B1 (1992)

GALAXIES: ELLIPTICAL AND LENTICULAR, CD

The Formation of Globular Clusters in Merging and Interacting Galaxies. *Keith M. Ashman & Stephen E. Zepf.* 384, 50, 1-F1 (1992)

Elliptical Galaxies with Dark Matter. I. Self-consistent Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 384, 423, 7-D9 (1992)

Elliptical Galaxies with Dark Matter. II. Optimal Luminous–Dark Matter Decomposition for a Sample of Bright Objects. *R. P. Saglia, G. Bertin, & M. Stiavelli.* 384, 433, 7-E7 (1992)

The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

The Contribution of Advanced Post-Hayashi Track Evolutionary Phases to the Ultraviolet Light of Elliptical Galaxies. *Marco Castellani, Marco Limongi, & Amedeo Tornambè.* 389, 227, 62-G1 (1992)

Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

On the Origin of Globular Clusters in Elliptical Galaxies. *S. Djorgovski & Basilio X. Santiago.* 391, L85, 99-F13 (1992)

The X-Ray Spectra of Galaxies. II. Average Spectral Properties and Emission Mechanisms. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 393, 134, 115-F12 (1992)

Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)

Cospatial Counterrotating Stellar Disks in the Virgo E7/S0 Galaxy NGC 4550. *Vera C. Rubin, J. A. Graham, & Jeffrey D. P. Kenney.* 394, L9, 133-B7 (1992)

The Intrinsic Shapes of Elliptical Galaxies. *Barbara S. Ryden.* 396, 445, 163-A5 (1992)

Cold Dark Matter versus Baryon-dominated Universes: Comparison with Peculiar Velocity and Acceleration Measurements. *Paola Del Grande & Nicola Vittorio.* 397, 26, 168-D1 (1992)

The Influence of Dark Matter on the Chemical Evolution of Elliptical Galaxies. *Francesca Matteucci.* 397, 32, 168-D9 (1992)

Dwarf Spheroidal Galaxies and Non-Newtonian Gravity. *Ortwin E. Gerhard & David N. Spergel.* 397, 38, 168-E1 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

The Distribution and Age of Asymptotic Giant Branch Stars in NGC 205. *T. J. Davidge.* 397, 457, 176-D5 (1992)

Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)

Mergers, Cooling Flows, and Evaporation. *W. B. Sparks.* 399, 66, 196-A5 (1992)

Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)

Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

Stellar Population Gradients in Early-Type Galaxies. *Jeffrey A. Munn.* 399, 444, 203-E1 (1992)

Dynamically Hot Galaxies. I. Structural Properties. *Ralf Bender, David Burstein, & S. M. Faber.* 399, 462, 203-F1 (1992)

Cold Dissipationless Collapse of Spherical Systems: Sensitivity to the Initial Density Law. *John K. Cannizzo & Timothy C. Hollister.* 400, 58, 209-F6 (1992)

The Stellar Content of Central Dominant Galaxies. II. Colors of cD Envelopes. *Glen Mackie.* 400, 65, 209-G1 (1992)

Structure of Merger Remnants. I. Bulgeless Progenitors. *Lars Hernquist.* 400, 460, 216-A9 (1992)

Are Cluster Ellipticals the Products of Mergers? *Gary A. Mamon.* 401, L3, 227-A10 (1992)

The External Origin of the Gas in S0 Galaxies. *F. Bertola, L. M. Buson, & W. W. Zeilinger.* 401, L79, 233-A12 (1992)

GALAXIES: EVOLUTION

Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

Production of Li, Be, and B in the Early Galaxy. *Gary Steigman & Terry P. Walker.* 385, L13, 17-B11 (1992)

Inverse Compton Scattering and the Alignments Observed in High-Redshift Radio Galaxies. *Ruth A. Daly.* 386, L9, 29-B9 (1992)

The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

On the Dynamical Evolution of Rich Galaxy Clusters. *G. Yepes & R. Domínguez-Tenreiro.* 387, 27, 37-D1 (1992)

Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

The Density Evolution of *IRAS* Galaxies. *Karl B. Fisher, Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 389, 188, 62-C11 (1992)

The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

Systematic Differences between the Field and Cluster Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 389, L49, 73-B11 (1992)

The Radial Distribution of Oxygen in Disk Galaxies. *Dennis Zaritsky.* 390, L73, 84-G7 (1992)

Asymptotic Giant Branch Stars in the Central Regions of M32. *T. J. Davidge & J.-L. Nieto.* 391, L13, 92-A1 (1992)

Mg II Absorption in the Spectra of 103 QSOs: Implications for the Evolution of Gas in High-Redshift Galaxies. *Charles C. Steidel & Wallace L. W. Sargent.* 80, 1, 22-B1 (1992)

Emission-Line Objects near Quasi-stellar Object Absorbers. III. Clustering and Colors of Moderate-Redshift H II Regions. *Brian Yanny & Donald G. York.* 391, 569, 95-A8 (1992)

Dynamical Evolution of Highly Inclined Rings. *Dimitris M. Christodoulou, Neal Katz, Hans-Walter Rix, & Asao Habe.* 395, 113, 141-E1 (1992)

Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)

Faint Galaxy Evolution via Interactions. *R. G. Carlberg & Stéphane Charlot.* 397, 5, 168-B6 (1992)

The Influence of Dark Matter on the Chemical Evolution of Elliptical Galaxies. *Francesca Matteucci.* 397, 32, 168-D9 (1992)

The Distribution and Age of Asymptotic Giant Branch Stars in NGC 205. *T. J. Davidge.* 397, 457, 176-D5 (1992)

Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)

Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)

Merging and Fast Galaxy Evolution. *R. G. Carlberg.* 399, L31, 200-C7 (1992)

Angular Correlation Function of Faint Galaxies. *C. J. Pritchet & L. Infante.* 399, L35, 200-C13 (1992)

Lyman-Alpha Emission in Star-forming Galaxies: Low-Redshift Counterparts of Primeval Galaxies? *D. Calzetti & A. L. Kinney.* 399, L39, 200-D5 (1992)

How Old Is the $z = 3.4$ Radio Galaxy B2 0902+34. *Peter Eisenhardt & Mark Dickinson.* 399, L47, 200-E4 (1992)

Morphological Peculiarities of High-Redshift Radio Galaxies: The Role of Relativistic Electrons. *Ruth A. Daly.* 399, 426, 203-C9 (1992)

Stellar Population Gradients in Early-Type Galaxies. *Jeffrey A. Munn.* 399, 444, 203-E1 (1992)

Observations of Zn II, Cr II, Fe II, and Ca II in the Damped Lyman-Alpha Absorber at $z = 0.692$ toward 3C 286. *David M. Meyer & Donald G. York.* 399, L121, 207-G7 (1992)

Deep *Hubble Space Telescope* Imaging of a Compact Radio Galaxy at $z = 2.390$. *Rogier Windhorst, Douglas F. Mathis, & William C. Keel.* 400, L1, 214-A8 (1992)

NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)

UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

GALAXIES: FORMATION

The Formation of Globular Clusters in Merging and Interacting Galaxies. *Keith M. Ashman & Stephen E. Zepf.* 384, 50, 1-F1 (1992)

Radiative Shocks and Hydrogen Molecules in Pregalactic Gas: The Effects of Postshock Radiation. *Hyesung Kang & Paul R. Shapiro.* 386, 432, 30-F13 (1992)

The Coherence Length of the Peculiar Velocity Field in the Universe and the Large-Scale Galaxy Correlation Data. *A. Kashlinsky.* 386, L37, 36-B6 (1992)

On the Dynamical Evolution of Rich Galaxy Clusters. *G. Yepes & R. Domínguez-Tenreiro.* 387, 27, 37-D1 (1992)

Constraints on the Power Spectrum of the Primordial Density Field from Large-Scale Data: Microwave Background and Predictions of Inflation. *A. Kashlinsky.* 387, L1, 43-A8 (1992)

The Formation of Giant Low Surface Brightness Galaxies. *Yehuda Hoffman, Joseph Silk, & Rosemary F. G. Wyse.* 388, L13, 52-B6 (1992)

Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

The Efficiency of Galaxy Formation in Clusters. *Laurence P. David & George R. Blumenthal.* 389, 510, 67-G1 (1992)

Systematic Differences between the Field and Cluster Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 389, L49, 73-B11 (1992)

Cooling and the Longevity of Polar Rings. *Neal Katz & Hans-Walter Rix.* 389, L55, 73-C3 (1992)

The Great Wall in the CfA Survey: Its Origin and Imprint on the Microwave Background Radiation. *F. Atrio-Barandela & A. Kashlinsky.* 390, 322, 79-C1 (1992)

Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

The Rate of Gravitational Galaxy Clustering. *William C. Saslaw.* 391, 423, 93-B4 (1992)

Dissipational Galaxy Formation. II. Effects of Star Formation. *Neal Katz.* 391, 502, 94-B7 (1992)

Emission-Line Objects near Quasi-stellar Object Absorbers. III. Clustering and Colors of Moderate-Redshift H II Regions. *Brian Yanny & Donald G. York.* 391, 569, 95-A8 (1992)

On the Origin of Globular Clusters in Elliptical Galaxies. *S. Djorgovski & Basilio X. Santiago.* 391, L85, 99-F13 (1992)

On the Origin of Cosmic Structure. *David Layzer.* 392, L5, 106-B1 (1992)

Cosmic Curvature and Condensation. *Martin Harwit.* 392, 394, 107-C1 (1992)

Gravitational Field Fluctuations in Weakly Clustered Systems. *V. Antonuccio-Delogu & F. Atrio-Barandela.* 392, 403, 107-C12 (1992)

Transformations of Galaxies. I. Mergers of Equal-Mass Stellar Disks. *Joshua E. Barnes.* 393, 484, 121-G9 (1992)

Models for Galaxy Halos in an Open Universe. *Simon D. M. White & Dennis Zaritsky.* 394, 1, 128-B1 (1992)

Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

QSO Absorbers: Evidence for a Primeval Galaxy Population. *Arati Chokshi.* 395, 21, 140-D5 (1992)

Cosmological Perturbations and the Physical Meaning of Gauge-invariant Variables. *Marco Bruni, Peter K. S. Dunsby, & George F. R. Ellis.* 395, 34, 140-E7 (1992)

Covariant Perturbations in a Multifluid Cosmological Medium. *Peter K. S. Dunsby, Marco Bruni, & George F. R. Ellis.* 395, 54, 140-G1 (1992)

Mg II Absorption by Previously Known Galaxies at $z \approx 0.5$. *Jill Bechtold & Erica Ellingson.* 396, 20, 155-C13 (1992)

Properties of Galactic Halos in Spatially Flat Universes Dominated by Cold Dark Matter: Effects of Nonvanishing Cosmological Constant. *Tatsushi Suginohara & Yasushi Suto.* 396, 395, 162-C11 (1992)

Testing the Isotropy of the Cosmic Microwave Background: The ULISSE Experiment. *P. de Bernardis, S. Masi, F. Melchiorri, B. Melchiorri, & N. Vittorio.* 396, L57, 166-G1 (1992)

String-induced Density Perturbations in Hot Dark Matter. *Dan N. Vollick.* 397, 14, 168-C1 (1992)

The Ultraviolet Absorption Spectrum of the Quasar H1821+643 ($z = 0.297$). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

[C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

Aperture Synthesis CO ($J = 3$–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Non-detected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)

Statistical Mechanics of Violent Relaxation. *David N. Spergel & Lars Hernquist.* 397, L75, 180-G7 (1992)

Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

How Old Is the $z = 3.4$ Radio Galaxy B2 0902+34. *Peter Eisenhardt & Mark Dickinson.* 399, L47, 200-E4 (1992)

High Spatial Resolution Continuum and Hα Imaging of the High-Redshift *IRAS* Source FSC 10214+4724. *B. T. Soifer, G. Neugebauer, K. Matthews, C. Lawrence, & J. Mazzarella.* 399, L55, 200-F1 (1992)

Filamentary and Hierarchical Pictures: Kinetic Energy Criterion. *Anatoly A. Klypin & Adrian L. Melott.* 399, 397, 203-A1 (1992)

Dark Halos Formed via Dissipationless Collapse. I. Shapes and Alignment of Angular Momentum. *Michael S. Warren, Peter J. Quinn, John K. Salmon, & Wojciech H. Zurek.* 399, 405, 203-A11 (1992)

Galaxies and Gas in a Cold Dark Matter Universe. *Neal Katz, Lars Hernquist, & David H. Weinberg.* 399, L109, 207-F1 (1992)

Galaxy Formation and Physical Bias. *Renyue Cen & Jeremiah P. Ostriker.* 399, L113, 207-F7 (1992)

Formation of Shells in Major Mergers. *Lars Hernquist & David N. Spergel.* 399, L117, 207-G1 (1992)

Newton's Laws in a Cosmological Model. *Mark Israelit & Nathan Rosen.* 400, 21, 209-C7 (1992)

Gravity and Count Probabilities in an Expanding Universe. *François R. Bouchet & Lars Hernquist.* 400, 25, 209-C13 (1992)

Cold Dissipationless Collapse of Spherical Systems: Sensitivity to the Initial Density Law. *John K. Cannizzo & Timothy C. Hollister.* 400, 58, 209-F6 (1992)

Deep *Hubble Space Telescope* Imaging of a Compact Radio Galaxy at $z = 2.390$. *Rogier Windhorst, Douglas F. Mathis, & William C. Keel.* 400, L1, 214-A8 (1992)

NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)

Structure of Merger Remnants. I. Bulgeless Progenitors. *Lars Hernquist.* 400, 460, 216-A9 (1992)

The Gravitational Wave Contribution to Cosmic Microwave Background Anisotropies and the Amplitude of Mass Fluctuations from *COBE* Results. *Francesco Lucchin, Sabino Matarrese, & Silvia Mollerach.* 401, L49, 232-E4 (1992)

Hubble Space Telescope Imaging of Distant Galaxies: 4C 41.17 at $z = 3.8$. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

GALAXIES: FUNDAMENTAL PARAMETERS

Elliptical Galaxies with Dark Matter. I. Self-consistent Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 384, 423, 7-D9 (1992)

Elliptical Galaxies with Dark Matter. II. Optimal Luminous–Dark Matter Decomposition for a Sample of Bright Objects. *R. P. Saglia, G. Bertin, & M. Stiavelli.* 384, 433, 7-E7 (1992)

Large-Scale Morphological Segregation in the Center for Astrophysics Redshift Survey. *Basilio X. Santiago & Michael A. Strauss.* 387, 9, 37-B7 (1992)

Luminosity Functions, Relativistic Beaming, and Unified Theories of High-Luminosity Radio Sources. *P. Padovani & C. M. Urry.* 387, 449, 44-C9 (1992)

Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

The Formation of Giant Low Surface Brightness Galaxies. *Yehuda Hoffman, Joseph Silk, & Rosemary F. G. Wyse.* 388, L13, 52-B6 (1992)

Far-Infrared Luminosity Functions of Normal Galaxies. *Takashi Isobe & Eric D. Feigelson.* 79, 197, 16-F3 (1992)

The Stromlo–APM Redshift Survey. I. The Luminosity Function and Space Density of Galaxies. *J. Loveday, B. A. Peterson, G. Efstathiou, & S. J. Maddox.* 390, 338, 79-D5 (1992)

Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

Biasing and Distribution Functions for Different Galaxy Types in Optical and *IRAS* Catalogs. *Ofer Lahav & William C. Saslaw.* 396, 430, 162-G1 (1992)

The Intrinsic Shapes of Elliptical Galaxies. *Barbara S. Ryden.* 396, 445, 163-A5 (1992)

The Compactness of Far-Infrared Bright Galaxies. *Zhong Wang & George Helou.* 398, L33, 187-E7 (1992)

Mean Galaxy Luminosity Classifications. *S. C. Odewahn & G. de Vaucouleurs.* 83, 65, 57-G1 (1992)

The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 400, 398, 215-C5 (1992)

The Hubble Flow from Brightest Cluster Galaxies. *Tod R. Lauer & Marc Postman.* 400, L47, 220-B8 (1992)

On the Uncertainties in the Properties of Quasar Host Galaxies. *R. G. Abraham, C. S. Crawford, & I. M. McHardy.* 401, 474, 228-E9 (1992)

GALAXIES: GENERAL

Type II-L Supernovae—Standard Bombs. *C. Martin Gaskell.* 389, L17, 66-C6 (1992)

Systematic Differences between the Field and Cluster Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 389, L49, 73-B11 (1992)

A Model of the Galactic Dark Halo. *E. R. Wollman.* 392, 80, 102-A8 (1992)

Lyman-Alpha Emission in Star-forming Galaxies: Low-Redshift Counterparts of Primeval Galaxies? *D. Calzetti & A. L. Kinney.* 399, L39, 200-D5 (1992)

GALAXIES: INDIVIDUAL

Messier Number: M31

Physical Properties of Neutral Gas in M31 and the Galaxy. *Robert Braun & René A. M. Walterbos.* 386, 120, 25-E10 (1992)

Rare Thermonuclear Explosions in Short-Period Cataclysmic Variables, with Possible Application to the Nova-like Red Variable in the Galaxy M31. *Icko Iben, Jr., & Alexander V. Tutukov.* 389, 369, 64-E1 (1992)

Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31. *Jesse K. Hill, Barbara B. Pfarr, Ralph C. Bohlin, Joan E. Isensee, Robert W. O'Connell, Susan G. Neff, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L33, 145-B1 (1992)

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

The Spectroscopic and Photometric Evolution of Novae in the Bulge of M31. *Austin B. Tomaney & Allen W. Shafter.* 81, 683, 45-C11 (1992)

Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31. *I. R. King, J. M. Deharveng, R. Albrecht, C. Barbieri, J. C. Blades, A. Boksenberg, P. Crane, M. J. Disney, P. Jakobsen, T. M. Kamperman, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, W. B. Sparks, & S. A. Stanford.* 397, L35, 173-E5 (1992)

The Nucleus of M31. *Fulvio Melia.* 398, L95, 194-C8 (1992)

M31: A Unique Laboratory for Gravitational Microlensing. *Arlin P. S. Crotts.* 399, L43, 200-D11 (1992)

Hubble Space Telescope Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

X-Ray Flashes from M31 Based on Extended Halo Models of Gamma-Ray Bursts. *Hui Li & Edison P. Liang.* 400, L59, 220-D3 (1992)

Messier Number: M32

Asymptotic Giant Branch Stars in the Central Regions of M32. *T. J. Davidge & J.-L. Nieto.* 391, L13, 92-A1 (1992)

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

Messier Number: M33

A Comparison of the Properties of an Unbiased Sample of OB Associations in the Local Group Galaxies M33 and NGC 6822. *Christine D. Wilson.* 384, L29, 11-B1 (1992)

The Molecular Interstellar Medium in Two Giant H II Regions in M33: NGC 604 and NGC 595. *Christine D. Wilson & Nick Scoville.* 385, 512, 19-E5 (1992)

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

Messier Number: M51

Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

Star Formation and the Distribution of H I and Infrared Emission in M51. *Richard J. Rand, Shrinivas R. Kulkarni, & W. Rice.* 390, 66, 74-G9 (1992)

A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)

Messier Number: M81

Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81. *Jesse K. Hill, Ralph C. Bohlin, Kwang-Ping Cheng, Paul M. N. Hintzen, Wayne B. Landsman, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L37, 145-B9 (1992)

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

Messier Number: M82

SO in Starburst Galaxies. *S. J. Petuchowski & C. L. Bennett.* 391, 137, 87-F5 (1992)

A 2.18 to 2.28 Micron Study of the Stellar Population in the Nucleus of M82. *Niall I. Gaffney & Dan F. Lester.* 394, 139, 129-F9 (1992)

Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)

High-Resolution 12.4 Micron Images of the Starburst Region in M82. *C. M. Telesco & D. Y. Gezari.* 395, 461, 148-B11 (1992)

Messier Number: M87

Turbulence in Cooling Flows. *Catherine F. Westbury & R. N. Henriksen.* 388, 64, 49-G12 (1992)

The Nonthermal Nucleus of M87. *John Kormendy.* 388, L9, 52-B1 (1992)

NGC Number: NGC 205

The Distribution and Age of Asymptotic Giant Branch Stars in NGC 205. *T. J. Davidge.* 397, 457, 176-D5 (1992)

NGC Number: NGC 247

An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

NGC Number: NGC 253

An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

SO in Starburst Galaxies. *S. J. Petuchowski & C. L. Bennett.* 391, 137, 87-F5 (1992)

Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

12 and 20 Micron Imaging of the Starburst Galaxy NGC 253. *R. K. Piña, B. Jones, R. C. Puetter, & W. A. Stein.* 401, L75, 233-A5 (1992)

NGC Number: NGC 300

New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

NGC Number: NGC 520

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

NGC Number: NGC 628

The Abundance Gradients across the Spiral Galaxies NGC 628 and NGC 6946. *Julien Belley & Jean-René Roy.* 78, 61, 2-C7 (1992)

Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74). *Peter C. Chen, Robert H. Cornett, Morton S. Roberts, Ralph C. Bohlin, Susan G. Neff, Robert W. O'Connell, Ronald A. Parise, Andrew M. Smith, & Theodore P. Stecher.* 395, L41, 145-C5 (1992)

NGC Number: NGC 660

OH and H I Absorption at the Nucleus of NGC 660. *Willem A. Baan, James Rhoads, & Aubrey D. Haschick.* 401, 508, 229-A6 (1992)

NGC Number: NGC 828

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

NGC Number: NGC 1068

An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)

NGC Number: NGC 1232

On the Distribution of Pitch Angles in External Galactic Spirals NGC 1232 and NGC 5457. *William S. Russell & William W. Roberts, Jr.* 398, 94, 183-B9 (1992)

NGC Number: NGC 1265

Three-dimensional Hydrodynamic Simulations of Narrow-Angle–Tail Radio Sources. I. The Begelman, Rees, and Blandford Model. *Dinshaw S. Balsara & Michael L. Norman.* 393, 631, 123-F3 (1992)

NGC Number: NGC 1275

Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275. *Eric P. Smith, Robert W. O'Connell, Ralph C. Bohlin, Kwang-Ping Cheng, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Paul Hintzen, Wayne B. Landsman, Susan G. Neff, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L49, 145-D9 (1992)

NGC Number: NGC 1399

X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies. *Y. Ikebe, T. Ohashi, K. Makishima, T. Tsuru, G. Fabbiano, D.-W. Kim, G. Trinchieri, I. Hatsukade, K. Yamashita, & H. Kondo.* 384, L5, 6-B1 (1992)

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

NGC Number: NGC 1530

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

NGC Number: NGC 1614

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

NGC Number: NGC 2366

The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

NGC Number: NGC 2444

A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

NGC Number: NGC 2445

A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

NGC Number: NGC 3079

Detection of Ca II Absorption in the QSO 0958+559 Due to a Heiles Shell in NGC 3079. *Donna S. Womble, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 388, 55, 49-G1 (1992)

Outflowing Molecular Gas in NGC 3079. *Judith A. Irwin & Yoshiaki Sofue.* 396, L75, 167-B1 (1992)

NGC Number: NGC 3115

Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)

NGC Number: NGC 3147

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

NGC Number: NGC 3281

The Ionization Cone, Obscured Nucleus, and Gaseous Outflow in NGC 3281: A Prototypical Seyfert 2 Galaxy? *Thaisa Storchi-Bergmann, Andrew S. Wilson, & Jack A. Baldwin.* 396, 45, 155-F1 (1992)

NGC Number: NGC 3359

A Dynamical Analysis of the Barred Spiral Galaxy NGC 3359. *Roger Ball.* 395, 418, 147-E5 (1992)

NGC Number: NGC 3516

The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

The Kinematics of the Extended Gas in the Seyfert Galaxy NGC 3516. *John S. Mulchaey, Zlatan Tsvetanov, Andrew S. Wilson, & Ismael Pérez-Fournon.* 394, 91, 129-B11 (1992)

NGC Number: NGC 3627

Formaldehyde Absorption in the Nucleus of NGC 3628. *Willem A. Baan & W. M. Goss.* 385, 188, 14-C10 (1992)

NGC Number: NGC 3628

Formaldehyde Absorption in the Nucleus of NGC 3628. *Willem A. Baan & W. M. Goss.* 385, 188, 14-C10 (1992)

NGC Number: NGC 3690

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

NGC Number: NGC 3783

Optical Spectroscopy and Narrow-Band Images of the Variable Seyfert 1 Galaxy NGC 3783. *Claudia Winge, M. G. Pastoriza, T. Storchi-Bergmann, & S. Lipari.* 393, 98, 115-C11 (1992)

Seyfert Galaxy Ultraviolet Emission-Line Intensities and Variability: A Self-consistent Photoionization Analysis Applied to Broad-Line–emitting Gas in NGC 3783. *Anuradha P. Koratkar & Gordon M. MacAlpine.* 401, 110, 222-D3 (1992)

NGC Number: NGC 3998

Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

NGC Number: NGC 4027

NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

NGC Number: NGC 4051

X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

NGC Number: NGC 4151

Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)

Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151. *G. A. Kriss, A. F. Davidsen, William P. Blair, C. W. Bowers, W. V. Dixon, S. T. Durrance, P. D. Feldman, H. C. Ferguson, R. C. Henry, R. A. Kimble, J. W. Kruk, Knox S. Long, H. W. Moos, & O. Vancura.* 392, 485, 108-C10 (1992)

Bidimensional Spectroscopy of the Central Kiloparsec of NGC 4151. *E. Mediavilla, S. Arribas, & J. L. Rasilla.* 396, 517, 164-A1 (1992)

Nonthermal Electron-Positron Pairs and the Break in the Hard X-Ray Spectrum of NGC 4151. *Paolo S. Coppi & Andrzej A. Zdziarski.* 398, L37, 187-F1 (1992)

Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics. *K. A. Weaver, R. F. Mushotzky, K. A. Arnaud, P. J. Serlemitsos, F. E. Marshall, R. Petre, K. M. Jahoda, E. A. Boldt, S. S. Holt, J. Swank, A. E. Szymkowiak, R. Kelley, A. P. Smale, & C. Done.* 401, L11, 227-B9 (1992)

NGC Number: NGC 4258

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

NGC Number: NGC 4303

The Oxygen Abundance Gradient in the Barred Spiral Galaxy NGC 4303. *Pierre Martin & Jean-René Roy.* 397, 463, 176-D13 (1992)

NGC Number: NGC 4319

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

NGC Number: NGC 4388

The Ionizing Radiation Field of NGC 4388 and Its Relation to the Extranuclear Emission-Line Regions. *Luis Colina.* 386, 59, 24-G5 (1992)

NGC Number: NGC 4449

Supergiant Filaments of Ionized Gas in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 391, L9, 91-G7 (1992)

NGC Number: NGC 4472

Dark Matter in NGC 4472. *Michael Loewenstein.* 384, 474, 8-A9 (1992)

UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

NGC Number: NGC 4550

NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)

NGC Number: NGC 4565

The Structure of NGC 4565 at 100, 160, and 200 Microns: Continuum Dust Emission in a Quiescent Sb Galaxy. *G. Engargiola & D. A. Harper.* 394, 104, 129-C13 (1992)

Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

NGC Number: NGC 4571

High-Resolution Imaging of Virgo Cluster Galaxies. I. The Distance Based on the Brightest Stars in NGC 4571. *Michael J. Pierce, Robert D. McClure, & René Racine.* 393, 523, 122-C9 (1992)

NGC Number: NGC 4631

Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

NGC Number: NGC 4710

Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

NGC Number: NGC 4945

Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

NGC Number: NGC 5128

The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

Near-Infrared Images of the Nuclear Region of NGC 5128. *Paula C. Turner, William J. Forrest, Judith L. Pipher, & Mark A. Shure.* 393, 648, 123-G7 (1992)

VLA Observations of the Inner Lobes of Centaurus A. *David A. Clarke, Jack O. Burns, & Michael L. Norman.* 395, 444, 147-G7 (1992)

NGC Number: NGC 5457

On the Distribution of Pitch Angles in External Galactic Spirals NGC 1232 and NGC 5457. *William S. Russell & William W. Roberts, Jr.* 398, 94, 183-B9 (1992)

NGC Number: NGC 5548

Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths. *B. M. Peterson, D. Alloin, D. Axon, T. J. Balonek, R. Bertram, T. A. Boroson, J. A. Christensen, S. D. Clements, M. Dietrich, M. Elvis, A. V. Filippenko, C. M. Gaskell, C. A. Haswell, J. P. Huchra, N. Jackson, W. Kollatschny, K. T. Korista, N. J. Lame, R. J. Leacock, S.-N. Lin, M. A. Malkan, A. S. Monk, M. V. Penston, R. W. Pogge, A. Robinson, E. I. Rosenblatt, J. C. Shields, A. G. Smith, G. M. Stirpe, W.-H. Sun, T. J. Turner, R. M. Wagner, B. J. Wilkes, & B. J. Wills.* 392, 470, 108-B7 (1992)

Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548. *J. Clavel, K. Nandra, F. Makino, K. A. Pounds, G. A. Reichert, C. M. Urry, W. Wamsteker, M. Peracaula-Bosch, G. C. Stewart, & C. Otani.* 393, 113, 115-E1 (1992)

Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

NGC Number: NGC 6240

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

NGC Number: NGC 6814

Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)

X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

NGC Number: NGC 6822

A Comparison of the Properties of an Unbiased Sample of OB Associations in the Local Group Galaxies M33 and NGC 6822. *Christine D. Wilson.* 384, L29, 11-B1 (1992)

CO Emission from the Dwarf Irregular Galaxy NGC 6822. *Christine D. Wilson.* 391, 144, 87-G1 (1992)

NGC Number: NGC 6946

The Abundance Gradients across the Spiral Galaxies NGC 628 and NGC 6946. *Julien Belley & Jean-René Roy.* 78, 61, 2-C7 (1992)

NGC Number: NGC 7252

High-Resolution CO Observations of NGC 7252: A Counterrotating Central Molecular Gas Disk. *Zhong Wang, François Schweizer, & Nicholas Z. Scoville.* 396, 510, 163-G5 (1992)

NGC Number: NGC 7469

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

NGC Number: NGC 7771

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

NGC Number: NGC 771415

The Evolutionary History of the Interacting Galaxy System NGC 7714/7715 (Arp 284). *Beverly J. Smith & John F. Wallin.* 393, 544, 122-E7 (1992)

Name: Arakelian 120

The Broad Emission-Line Profiles and Profile Variability of the Seyfert 1 Galaxy Arakelian 120. *Kirk T. Korista.* 79, 285, 18-C7 (1992)

Twin Peaks: IC 4329A and Arakelian 120. *P. Marziani, M. Calvani, & J. W. Sulentic.* 393, 658, 124-A5 (1992)

Name: Arp 147

A Model for Ring Galaxies: Arp 147–like Systems. *Richard A. Gerber, Susan A. Lamb, & Dinshaw S. Balsara.* 399, L51, 200-E10 (1992)

Name: Arp 193

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Name: Arp 220

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Name: Arp 299

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Name: Centaurus A

Nebular Spectra of Type Ia Supernovae as Probes for Extragalactic Distances, Reddening, and Nucleosynthesis. *P. Ruiz-Lapuente & L. B. Lucy.* 400, 127, 210-E1 (1992)

Name: Circinus

Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

Name: Draco

Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

Name: Fairall 9

From Fairall 9 to High-z Objects: Pattern of Change in Ionization Structure. *Wei Zheng, Li-Zhi Fang, & Luc Binette.* 392, 74, 102-A1 (1992)

Name: Fornax

Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

Name: Markarian 205

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

Name: Markarian 231

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Name: Markarian 573

Anisotropic Ionizing Radiation in Seyfert Galaxies. I. The Extended Narrow-Line Region in Markarian 573. *Zlatan Tsvetanov & J. R. Walsh.* 386, 485, 31-D5 (1992)

Name: Sextans

Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)

Name: Sextans A

Supergiant Filaments of Ionized Gas in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 391, L9, 91-G7 (1992)

Alphanumeric: 0710+439

The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

Alphanumeric: 2352+495

The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

Alphanumeric: 10214+4724

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

Alphanumeric: A0035−324

Large Infrared and Optical Color Gradients in the Cartwheel Ring Galaxy: Evidence for the First Epoch of Star Formation in the Wake of an Expanding Ring. *F. M. Marcum, P. N. Appleton, & J. L. Higdon.* 399, 57, 195-G3 (1992)

Alphanumeric: 3C 109

Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

Alphanumeric: 3C 219

Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

Alphanumeric: 3C 382

EXOSAT Observations of the Broad-Line Radio Galaxy 3C 382. *K. K. Ghosh & S. Soundararajaperumal.* 389, 179, 62-C1 (1992)

Alphanumeric: IC 342

^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)

Warm Molecular Gas in the Nucleus of IC 342: The CO ($J = 3 \rightarrow 2$) Distribution. *Judith A. Irwin & L. W. Avery.* 388, 328, 54-D7 (1992)

Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

Alphanumeric: IC 4182

The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

Alphanumeric: IC 4329A

Twin Peaks: IC 4329A and Arakelian 120. *P. Marziani, M. Calvani, & J. W. Sulentic.* 393, 658, 124-A5 (1992)

Alphanumeric: IC 5063

Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

Alphanumeric: IR 14070+0525

IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

Alphanumeric: IRAS 03202−5150

IRAS 03202−5150: A New Ring Active Galactic Nucleus with Obscured Seyfert 1 Nucleus. *Sebastian Llpari & F. Macchetto.* 397, 126, 169-E6 (1992)

Alphanumeric: IRAS 04493−6441

Coronal Lines and Starburst Features in Two New *IRAS* Active Galactic Nuclei: IRAS 04493−6441 and IRAS 22419−6049. *Sebastian Llpari & F. Macchetto.* 387, 522, 45-B9 (1992)

Alphanumeric: IRAS 22419−6049

Coronal Lines and Starburst Features in Two New *IRAS* Active Galactic Nuclei: IRAS 04493−6441 and IRAS 22419−6049. *Sebastian Llpari & F. Macchetto.* 387, 522, 45-B9 (1992)

Alphanumeric: IRAS F10214+4724

[C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

Aperture Synthesis CO ($J = 3$–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Non-detected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)

Alphanumeric: MCG 2-58-22

X-Ray Observations of the Seyfert 1 Galaxy MCG 2-58-22. *K. K. Ghosh & S. Soundararajaperumal.* 398, 501, 190-D1 (1992)

Alphanumeric: MCG-5-23-16

X-Ray Continuum and Line Emission of the Seyfert Galaxy MCG−5-23-16. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 385, 132, 13-E10 (1992)

Alphanumeric: PKS 2155−304

The Optical Variability of PKS 2155−304. *Michael T. Carini & H. Richard Miller.* 385, 146, 13-G1 (1992)

Intensive Optical Monitoring of the BL Lacertae Object PKS 2155−304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

Alphanumeric: UGC 7636

UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

GALAXIES: INTERACTIONS

Relaxation-driven Binary Mergers. *Sergio Gelato, David F. Chernoff, & Ira Wasserman.* 384, 15, 1-C1 (1992)

The Formation of Globular Clusters in Merging and Interacting Galaxies. *Keith M. Ashman & Stephen E. Zepf.* 384, 50, 1-F1 (1992)

A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

The Distribution of cD Galaxy Peculiar Velocities. *Eliot M. Malumuth.* 386, 420, 30-E13 (1992)

A Triggering Mechanism for Enhanced Star Formation in Colliding Galaxies. *Chanda J. Jog & P. M. Solomon.* 387, 152, 38-G6 (1992)

Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

A Near-Infrared Imaging Survey of Interacting Galaxies: The Small Angular-Size Arp Systems. *Howard A. Bushouse & S. Adam Stanford.* 79, 213, 16-G11 (1992)

Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

Merging in Cosmic Structures. *A. Cavaliere, S. Colafrancesco, & N. Menci.* 392, 41, 101-E1 (1992)

Transformations of Galaxies. I. Mergers of Equal-Mass Stellar Disks. *Joshua E. Barnes.* 393, 484, 121-G9 (1992)

The Evolutionary History of the Interacting Galaxy System NGC 7714/7715 (Arp 284). *Beverly J. Smith & John F. Wallin.* 393, 544, 122-E7 (1992)

Models for Galaxy Halos in an Open Universe. *Simon D. M. White & Dennis Zaritsky.* 394, 1, 128-B1 (1992)

An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

High-Resolution CO Observations of NGC 7252: A Counterrotating Central Molecular Gas Disk. *Zhong Wang, François Schweizer, & Nicholas Z. Scoville.* 396, 510, 163-G5 (1992)

Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)

Faint Galaxy Evolution via Interactions. *R. G. Carlberg & Stéphane Charlot.* 397, 5, 168-B6 (1992)

Statistical Mechanics of Violent Relaxation. *David N. Spergel & Lars Hernquist.* 397, L75, 180-G7 (1992)

Mass Transfer and Loss in Interacting Disk Galaxies. *J. F. Wallin & B. V. Stuart.* 399, 29, 195-D10 (1992)

Merging and Fast Galaxy Evolution. *R. G. Carlberg.* 399, L31, 200-C7 (1992)

A Model for Ring Galaxies: Arp 147–like Systems. *Richard A. Gerber, Susan A. Lamb, & Dinshaw S. Balsara.* 399, L51, 200-E10 (1992)

High Spatial Resolution Continuum and Hα Imaging of the High-Redshift *IRAS* Source FSC 10214+4724. *B. T. Soifer, G. Neugebauer, K. Matthews, C. Lawrence, & J. Mazzarella.* 399, L55, 200-F1 (1992)

Formation of Shells in Major Mergers. *Lars Hernquist & David N. Spergel.* 399, L117, 207-G1 (1992)

Models of Star Formation in Interacting and Merging Disk Galaxies. *J. Christopher Mihos, Douglas O. Richstone, & Gregory D. Bothun.* 400, 153, 210-G4 (1992)

Structure of Merger Remnants. I. Bulgeless Progenitors. *Lars Hernquist.* 400, 460, 216-A9 (1992)

Starbursts Triggered by Central Overpressure in Interacting Galaxies. *Chanda J. Jog & Mousumi Das.* 400, 476, 216-C1 (1992)

NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

The External Origin of the Gas in S0 Galaxies. *F. Bertola, L. M. Buson, & W. W. Zeilinger.* 401, L79, 233-A12 (1992)

GALAXIES: INTERGALACTIC MEDIUM

X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies. *Y. Ikebe, T. Ohashi, K. Makishima, T. Tsuru, G. Fabbiano, D.-W. Kim, G. Trinchieri, I. Hatsukade, K. Yamashita, & H. Kondo.* 384, L5, 6-B1 (1992)

Numerical Simulations of Hydrodynamical Jets Crossing a Galactic Halo/Intracluster Medium Interface. *Paul J. Wiita & Michael L. Norman.* 385, 478, 19-B7 (1992)

Radiative Shocks and Hydrogen Molecules in Pregalactic Gas: The Effects of Postshock Radiation. *Hyesung Kang & Paul R. Shapiro.* 386, 432, 30-F13 (1992)

Galaxy-driven Turbulence and the Growth of Intracluster Magnetic Fields. *David S. De Young.* 386, 464, 31-B8 (1992)

Magnetic Fields in Damped Lyα Systems. *A. M. Wolfe, K. M. Lanzetta, & A. L. Oren.* 388, 17, 49-C5 (1992)

A Huge H I Cloud near a Galaxy Pair. *G. Lyle Hoffman, E. E. Salpeter, C. Lamphier, & T. Roos.* 388, L5, 52-A11 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

The Contribution of Quasars to the Ultraviolet Extragalactic Background. *Piero Madau.* 389, L1, 66-B1 (1992)

Quasar Absorption Lines with a Nonzero Cosmological Constant. *Edwin L. Turner & Satoru Ikeuchi.* 389, 478, 67-D7 (1992)

The Efficiency of Galaxy Formation in Clusters. *Laurence P. David & George R. Blumenthal.* 389, 510, 67-G1 (1992)

X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

Relation of Redshift Surveys to Matter Distribution in Spherically Symmetric Dust Universes. *Hannu Kurki-Suonio & Edison Liang.* 390, 5, 74-B7 (1992)

The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

Mg II Absorption in the Spectra of 103 QSOs: Implications for the Evolution of Gas in High-Redshift Galaxies. *Charles C. Steidel & Wallace L. W. Sargent.* 80, 1, 22-B1 (1992)

Lyα Emission from Cooling Flows and Measures of the Dust Content of Rich Clusters of Galaxies. *Esther M. Hu.* 391, 608, 95-E7 (1992)

Intergalactic Ionizing Flux from Active Galactic Nuclei. *Nobuo Terasawa.* 392, L15, 106-C1 (1992)

Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

Semiempirical Limits on the Thermal Conductivity of Intracluster Gas. *Laurence P. David, John P. Hughes, & Wallace H. Tucker.* 394, 452, 135-A7 (1992)

Characteristic-based Models for the Evolution of Cooling Flows. *Stephen D. Murray & Steven A. Balbus.* 395, 99, 141-C11 (1992)

Interstellar Dust from the Milky Way to the Magellanic Clouds. *Yichuan C. Pei.* 395, 130, 141-G1 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

High-Energy X Emission from the Coma Cluster. *Yoel Rephaeli & Oleg Goldshmidt.* 397, 438, 176-B6 (1992)

The X-Ray Spectrum of Abell 665. *John P. Hughes & Yasuo Tanaka.* 398, 62, 182-G1 (1992)

A Direct Measure of the Gunn-Peterson Effect at $z = 3$: Limits on the Baryon Density of the Intergalactic Medium at High Redshifts. *Emanuele Giallongo, Stefano Cristiani, & Dario Trevese.* 398, L9, 187-B7 (1992)

X-Ray Constraints on the Shape of the Dark Matter in Five Abell Clusters. *David A. Buote & Claude R. Canizares.* 400, 385, 215-B3 (1992)

GALAXIES: INTERSTELLAR MATTER

^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)

Formaldehyde Absorption in the Nucleus of NGC 3628. *Willem A. Baan & W. M. Goss.* 385, 188, 14-C10 (1992)

The Abundance Gradients across the Spiral Galaxies NGC 628 and NGC 6946. *Julien Belley & Jean-René Roy.* 78, 61, 2-C7 (1992)

An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

An Extended Search for Extragalactic O_2. *H. S. Liszt.* 386, 139, 25-G9 (1992)

Predicted Galaxy Counts in CO Emission. *Frances Verter.* 386, 398, 30-D1 (1992)

A Triggering Mechanism for Enhanced Star Formation in Colliding Galaxies. *Chanda J. Jog & P. M. Solomon.* 387, 152, 38-G6 (1992)

The Lyα/Hα Ratio in High-Redshift Radio Galaxies. *Patrick J. McCarthy, Richard Elston, & Peter Eisenhardt.* 387, L29, 43-D1 (1992)

The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

Detection of Ca II Absorption in the QSO 0958+559 Due to a Heiles Shell in NGC 3079. *Donna S. Womble, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 388, 55, 49-G1 (1992)

The Integrated Spectra of Nearby Galaxies: General Properties and Emission-Line Spectra. *Robert C. Kennicutt, Jr.* 388, 310, 54-C1 (1992)

Warm Molecular Gas in the Nucleus of IC 342: The CO ($J = 3 \rightarrow 2$) Distribution. *Judith A. Irwin & L. W. Avery.* 388, 328, 54-D7 (1992)

Spectroscopy of Emission-Line Nebulae in Powerful Radio Galaxies: Interpretation. *S. A. Baum, T. M. Heckman, & W. van Breugel.* 389, 208, 62-E7 (1992)

Star Formation and the Distribution of H I and Infrared Emission in M51. *Richard J. Rand, Shrinivas R. Kulkarni, & W. Rice.* 390, 66, 74-G9 (1992)

Primordial Giant Molecular Cloud Clumps Can Be Probed—Optically. *David L. Block, J. E. Dyson, & Claus Madsen.* 390, L13, 78-C1 (1992)

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

Swing Amplification of Nonaxisymmetric Perturbations in Stars and Gas in a Sheared Galactic Disk. *Chanda J. Jog.* 390, 378, 80-B1 (1992)

Formation of a Giant Galactic Gaseous Halo: Metal Absorption Lines and High-Velocity Clouds. *Fan Li & Satoru Ikeuchi.* 390, 405, 80-D7 (1992)

The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

SO in Starburst Galaxies. *S. J. Petuchowski & C. L. Bennett.* 391, 137, 87-F5 (1992)

CO Emission from the Dwarf Irregular Galaxy NGC 6822. *Christine D. Wilson.* 391, 144, 87-G1 (1992)

Supergiant Filaments of Ionized Gas in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 391, L9, 91-G7 (1992)

The Internal Extinction in Spiral Galaxies. *Mingsheng Han.* 391, 617, 95-F4 (1992)

An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav*

Rydbeck, Raymond L. Plante, & Ronald J. Allen. 392, 497, 108-D11 (1992)

The Relation of Dust and Atomic Gas Properties of Galaxies. *John G. Spitzak & Stephen E. Schneider.* 393, 126, 115-F1 (1992)

The Tully-Fisher Relation for the CO Line. *John M. Dickey & Ilya Kazès.* 393, 530, 122-D5 (1992)

Dust and the Transfer of Stellar Radiation within Galaxies. *Adolf N. Witt, Harley A. Thronson, Jr., & John M. Capuano, Jr.* 393, 611, 123-D7 (1992)

Reproducing the Local and Global Morphological Segregation between S and S0 Galaxies in Rich Clusters by Simple Ram-Pressure Stripping. *José M. Solanes & Eduardo Salvador-Solé.* 395, 91, 141-C1 (1992)

Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)

Interstellar Dust from the Milky Way to the Magellanic Clouds. *Yichuan C. Pei.* 395, 130, 141-G1 (1992)

On the Angular Extent of the Galactic 1.8 MeV Line Emission from Radioactive ^{26}Al. *Martin Varendorff & Volker Schönfelder.* 395, 158, 142-B7 (1992)

Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

High-Resolution CO Observations of NGC 7252: A Counterrotating Central Molecular Gas Disk. *Zhong Wang, François Schweizer, & Nicholas Z. Scoville.* 396, 510, 163-G5 (1992)

On the Use of Far-Infrared Luminosity as a Star Formation Indicator in Galaxies. *Marc Sauvage & Trinh X. Thuan.* 396, L69, 167-A9 (1992)

IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

The He I λ2.06 Microns/Brγ Ratio in Starburst Galaxies—An Objective Constraint on the Upper Mass Limit to the Initial Mass Function. *René Doyon, P. J. Puxley, & R. D. Joseph.* 397, 117, 169-D9 (1992)

[C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Non-detected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)

O-Star Photoionization Models of Liners with Weak [O I] λ6300 Emission. *Alexei V. Filippenko & Roberto Terlevich.* 397, L79, 181-A1 (1992)

The Determination of Dust Mass in Galaxies. *John Kwan & Shuding Xie.* 398, 105, 183-C7 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

Low-Redshift Lyman-Alpha Absorption Lines and the Dark Matter Halos of Disk Galaxies. *Philip Maloney.* 398, L89, 194-C1 (1992)

Mergers, Cooling Flows, and Evaporation. *W. B. Sparks.* 399, 66, 196-A5 (1992)

Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

Normal O Stars in Dense Media Generate LINERs. *Joseph C. Shields.* 399, L27, 200-C1 (1992)

Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

A Survey for Extragalactic HCN and HCO^+. *Nguyen-Q-Rieu, James M. Jackson, Christian Henkel, Truong-Bach, & Rainer Mauersberger.* 399, 521, 204-D1 (1992)

Observations of Zn II, Cr II, Fe II, and Ca II in the Damped Lyman-Alpha Absorber at $z = 0.692$ toward 3C 286. *David M. Meyer & Donald G. York.* 399, L121, 207-G7 (1992)

Models of Star Formation in Interacting and Merging Disk Galaxies. *J. Christopher Mihos, Douglas O. Richstone, & Gregory D. Bothun.* 400, 153, 210-G4 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

The Opacity of Spiral Disks. *A. Bosma, Y. Byun, K. C. Freeman, & E. Athanassoula.* 400, L21, 214-C10 (1992)

Heating the Warm Ionized Medium. *R. J. Reynolds & D. P. Cox.* 400, L33, 214-D10 (1992)

Starbursts Triggered by Central Overpressure in Interacting Galaxies. *Chanda J. Jog & Mousumi Das.* 400, 476, 216-C1 (1992)

UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

Infrared Spectra of Obscuring Dust Tori around Active Galactic Nuclei. I. Calculational Method and Basic Trends. *Edward A. Pier & Julian H. Krolik.* 401, 99, 222-C5 (1992)

On Determining the Primordial Helium Abundance from the Spectra of H II Galaxies. *Alison Campbell.* 401, 157, 223-A1 (1992)

OH and H I Absorption at the Nucleus of NGC 660. *Willem A. Baan, James Rhoads, & Aubrey D. Haschick.* 401, 508, 229-A6 (1992)

Heating of H II Regions with Application to the Galactic Center. *Philip R. Maloney, David J. Hollenbach, & Charles H. Townes.* 401, 559, 229-E5 (1992)

GALAXIES: IRREGULAR

A Comparison of the Properties of an Unbiased Sample of OB Associations in the Local Group Galaxies M33 and NGC 6822. *Christine D. Wilson.* 384, L29, 11-B1 (1992)

CO Emission from the Dwarf Irregular Galaxy NGC 6822. *Christine D. Wilson.* 391, 144, 87-G1 (1992)

Supergiant Filaments of Ionized Gas in Irregular Galaxies. *Deidre A. Hunter & John S. Gallagher III.* 391, L9, 91-G7 (1992)

Northern Dwarf and Low Surface Brightness Galaxies. II. The Green Bank Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Jeffrey G. Mangum, & John Miller.* 81, 5, 35-B13 (1992)

GALAXIES: JETS

The Origin of the Optical Emission Lines Associated with Extragalactic Radio Sources. *S. M. Viegas & E. M. de Gouveia Dal Pino.* 384, 467, 8-A1 (1992)

The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

Numerical Simulations of Hydrodynamical Jets Crossing a Galactic Halo/Intracluster Medium Interface. *Paul J. Wiita & Michael L. Norman.* 385, 478, 19-B7 (1992)

Inverse Compton Scattering and the Alignments Observed in High-Redshift Radio Galaxies. *Ruth A. Daly.* 386, L9, 29-B9 (1992)

Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. II. Galaxy Rotation as Virial Parameter. *Mark Whittle.* 387, 109, 38-D2 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. III. Galaxy Luminosity as Virial Parameter. *Mark Whittle.* 387, 121, 38-E1 (1992)

Luminosity Functions, Relativistic Beaming, and Unified Theories of High-Luminosity Radio Sources. *P. Padovani & C. M. Urry.* 387, 449, 44-C9 (1992)

Astrophysical Jets and Theories of Gravitation. *Mario Livio & Nathan Rosen.* 387, 458, 44-D5 (1992)

Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. I. A Compilation of Narrow Line Region and Host Galaxy Properties. *Mark Whittle.* 79, 49, 13-A9 (1992)

Intrinsically Asymmetric Astrophysical Jets. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 390, 46, 74-F1 (1992)

Modeling Structures of Knots in Jet Flows with the Burgers Equation. *Lev Kofman & A. C. Raga.* 390, 359, 79-F5 (1992)

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

Collective Emission from Rapidly Variable Quasars. *Gregory Benford.* 391, L59, 99-D1 (1992)

An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)

The Evolution of Cocoons Surrounding Light, Extragalactic Jets. *Denis F. Cioffi & John M. Blondin.* 392, 458, 108-A7 (1992)

Self-similar Evolution of Magnetized Plasmas. I. Quasi-static Solution. *Wei-Hong Yang.* 392, 465, 108-B1 (1992)

A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

Three-Epoch VLBI Observations of the Nucleus in the Lobe-dominated Quasar 3C 334. *D. H. Hough, A. C. S. Readhead, D. A. Wood, Jr., & J. J. Feldmeier.* 393, 81, 115-B1 (1992)

Three-dimensional Hydrodynamic Simulations of Narrow-Angle–Tail Radio Sources. I. The Begelman, Rees, and Blandford Model. *Dinshaw S. Balsara & Michael L. Norman.* 393, 631, 123-F3 (1992)

Electromagnetically Driven Relativistic Jets: A Class of Self-similar Solutions. *Zhi-Yun Li, Tzihong Chiueh, & Mitchell C. Begelman.* 394, 459, 135-B1 (1992)

VLA Observations of the Inner Lobes of Centaurus A. *David A. Clarke, Jack O. Burns, & Michael L. Norman.* 395, 444, 147-G7 (1992)

The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

Outflowing Molecular Gas in NGC 3079. *Judith A. Irwin & Yoshiaki Sofue.* 396, L75, 167-B1 (1992)

Kinematics of the Parsec-Scale Relativistic Jet in 3C 345. *Stephen C. Unwin & Ann E. Wehrle.* 398, 74, 183-A1 (1992)

Spatial Stability of the Magnetized Slab Jet. *Philip E. Hardee, Michael A. Cooper, Michael L. Norman, & James M. Stone.* 399, 478, 203-G11 (1992)

Nonlinear Dynamics of a Three-dimensional Jet. *Philip E. Hardee & David A. Clarke.* 400, L9, 214-B6 (1992)

Magnetohydrodynamic Models for Extragalactic Jets. I. General Method Based on Conservation Laws. *Paola Pietrini & Guidetta Torricelli-Ciamponi.* 401, 60, 221-G1 (1992)

The BL Lacertae Object 1E 1415.6+2557: Host Galaxy, Possible Optical Jet, and Environment. *W. Romanishin.* 401, L65, 232-G1 (1992)

GALAXIES: KINEMATICS AND DYNAMICS

Stellar Population–induced Peculiar Velocities of Elliptical Galaxies. *Michael D. Gregg.* 384, 43, 1-E5 (1992)

Elliptical Galaxies with Dark Matter. I. Self-consistent Models. *G. Bertin, R. P. Saglia, & M. Stiavelli.* 384, 423, 7-D9 (1992)

Elliptical Galaxies with Dark Matter. II. Optimal Luminous–Dark Matter Decomposition for a Sample of Bright Objects. *R. P. Saglia, G. Bertin, & M. Stiavelli.* 384, 433, 7-E7 (1992)

The Orbital Structure of Galactic Halos. *Joanna F. Lees & M. Schwarzschild.* 384, 491, 8-C1 (1992)

Ring Structure in Disk Galaxies. *C. E. Zaspel.* 385, 83, 13-A11 (1992)

Gas Clouds from Tidally Disrupted Stars in Active Galactic Nuclei. *Nico Roos.* 385, 108, 13-C11 (1992)

Projections of Box-shaped Galaxies. *Barbara S. Ryden.* 386, 42, 24-E10 (1992)

Anisotropic Ionizing Radiation in Seyfert Galaxies. I. The Extended Narrow-Line Region in Markarian 573. *Zlatan Tsvetanov & J. R. Walsh.* 386, 485, 31-D5 (1992)

The Central Velocity Dispersion of the Lensing Galaxy in the Quadruple Lens System Q2237+0305. *Craig B. Foltz, Paul C. Hewett, Rachel L. Webster, & Geraint F. Lewis.* 386, L43, 36-C1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. II. Galaxy Rotation as Virial Parameter. *Mark Whittle.* 387, 109, 38-D2 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. III. Galaxy Luminosity as Virial Parameter. *Mark Whittle.* 387, 121, 38-E1 (1992)

The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

Optical Tracers of Spiral Wave Resonances in Galaxies. II. Hidden Three-Arm Spirals in a Sample of 18 Galaxies. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Luis Montenegro.* 79, 37, 12-E9 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. I. A Compilation of Narrow Line Region and Host Galaxy Properties. *Mark Whittle.* 79, 49, 13-A9 (1992)

Equilibrium Stellar Systems with Spindle Singularities. *Stuart L. Shapiro & Saul A. Teukolsky.* 388, 287, 53-G10 (1992)

Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

Warm Molecular Gas in the Nucleus of IC 342: The CO ($J = 3 \rightarrow 2$) Distribution. *Judith A. Irwin & L. W. Avery.* 388, 328, 54-D7 (1992)

Galactic Disks, Infall, and the Global Value of Ω. *G. Tóth & J. P. Ostriker.* 389, 5, 60-B6 (1992)

Triaxial Galaxy Models with Thin Tube Orbits. *C. Hunter & P. T. de Zeeuw.* 389, 79, 61-B1 (1992)

A Rotating Stäckel Potential. *G. Contopoulos & Peter O. Vandervoort.* 389, 118, 61-E1 (1992)

Dynamics of Ultraharmonic Resonances in Spiral Galaxies. *Paweł Artymowicz & Stephen H. Lubow.* 389, 129, 61-F1 (1992)

No Back-Side Infall into the Great Attractor. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 389, L5, 66-B6 (1992)

Cooling and the Longevity of Polar Rings. *Neal Katz & Hans-Walter Rix.* 389, L55, 73-C3 (1992)

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

Swing Amplification of Nonaxisymmetric Perturbations in Stars and Gas in a Sheared Galactic Disk. *Chanda J. Jog.* 390, 378, 80-B1 (1992)

The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

Inferring the Mass of Spherical Stellar Systems from Velocity Moments. *Herwig Dejonghe & David Merritt.* 391, 531, 94-E6 (1992)

Elongated Disks and the Scatter in the Tully-Fisher Relation. *Marijn Franx & Tim de Zeeuw.* 392, L47, 113-B1 (1992)
Transformations of Galaxies. I. Mergers of Equal-Mass Stellar Disks. *Joshua E. Barnes.* 393, 484, 121-G9 (1992)
Off-Center Nuclei in Galaxies. *R. H. Miller & B. F. Smith.* 393, 508, 122-B7 (1992)
The Tully-Fisher Relation for the CO Line. *John M. Dickey & Ilya Kazès.* 393, 530, 122-D5 (1992)
The Evolutionary History of the Interacting Galaxy System NGC 7714/7715 (Arp 284). *Beverly J. Smith & John F. Wallin.* 393, 544, 122-E7 (1992)
Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)
The Kinematics of the Extended Gas in the Seyfert Galaxy NGC 3516. *John S. Mulchaey, Zlatan Tsvetanov, Andrew S. Wilson, & Ismael Pérez-Fournon.* 394, 91, 129-B11 (1992)
Cospatial Counterrotating Stellar Disks in the Virgo E7/S0 Galaxy NGC 4550. *Vera C. Rubin, J. A. Graham, & Jeffrey D. P. Kenney.* 394, L9, 133-B7 (1992)
The Kinematics of Planetary Nebulae in the Outer Fields of the Large Magellanic Cloud. *E. Vassiliadis, Stephen J. Meatheringham, & Michael A. Dopita.* 394, 489, 135-D7 (1992)
Dynamical Evolution of Highly Inclined Rings. *Dimitris M. Christodoulou, Neal Katz, Hans-Walter Rix, & Asao Habe.* 395, 113, 141-E1 (1992)
The Potential Energy Tensors for Subsystems. *R. Caimmi & L. Secco.* 395, 119, 141-E11 (1992)
Peculiar Rotations of Molecular Gas in M82: Keplerian Disk and Slowly Rotating Halo. *Y. Sofue, H.-P. Reuter, M. Krause, R. Wielebinski, & N. Nakai.* 395, 126, 141-F5 (1992)
A Dynamical Analysis of the Barred Spiral Galaxy NGC 3359. *Roger Ball.* 395, 418, 147-E5 (1992)
Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)
A Southern Sky Survey of the Peculiar Velocities of 1355 Spiral Galaxies. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 81, 413, 41-B1 (1992)
Velocity Segregation in Galaxy Clusters. *A. Biviano, M. Girardi, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 396, 35, 155-E1 (1992)
The Ionization Cone, Obscured Nucleus, and Gaseous Outflow in NGC 3281: A Prototypical Seyfert 2 Galaxy? *Thaisa Storchi-Bergmann, Andrew S. Wilson, & Jack A. Baldwin.* 396, 45, 155-F1 (1992)
Properties of Galactic Halos in Spatially Flat Universes Dominated by Cold Dark Matter: Effects of Nonvanishing Cosmological Constant. *Tatsushi Suginohara & Yasushi Suto.* 396, 395, 162-C11 (1992)
The Intrinsic Shapes of Elliptical Galaxies. *Barbara S. Ryden.* 396, 445, 163-A5 (1992)
Peculiar Velocities of Clusters in the Perseus-Pisces Supercluster. *M. Han & J. R. Mould.* 396, 453, 163-B1 (1992)
Bidimensional Spectroscopy of the Central Kiloparsec of NGC 4151. *E. Mediavilla, S. Arribas, & J. L. Rasilla.* 396, 517, 164-A1 (1992)
Dwarf Spheroidal Galaxies and Non-Newtonian Gravity. *Ortwin E. Gerhard & David N. Spergel.* 397, 38, 168-E1 (1992)
Analytical Potentials for Barred Galaxies. *Kevin Long & Chigurupati Murali.* 397, 44, 168-E9 (1992)
Generalized Newtonian Force Law and Hidden Mass. *Richard L. Liboff.* 397, L71, 180-G1 (1992)
Kinematics of the Parsec-Scale Relativistic Jet in 3C 345. *Stephen C. Unwin & Ann E. Wehrle.* 398, 74, 183-A1 (1992)
The Estimation of Absolute Magnitude and Distance from the Tully-Fisher Relation. *Geoffrey V. Bicknell.* 399, 1, 195-B1 (1992)
A Model for Ring Galaxies: Arp 147–like Systems. *Richard A. Gerber, Susan A. Lamb, & Dinshaw S. Balsara.* 399, L51, 200-E10 (1992)
Dark Halos Formed via Dissipationless Collapse. I. Shapes and Alignment of Angular Momentum. *Michael S. Warren, Peter J. Quinn, John K. Salmon, & Wojciech H. Zurek.* 399, 405, 203-A11 (1992)
Dynamically Hot Galaxies. I. Structural Properties. *Ralf Bender, David Burstein, & S. M. Faber.* 399, 462, 203-F1 (1992)
Cold Dissipationless Collapse of Spherical Systems: Sensitivity to the Initial Density Law. *John K. Cannizzo & Timothy C. Hollister.* 400, 58, 209-F6 (1992)
Bar-Spheroid Interaction in Galaxies. *Lars Hernquist & Martin D. Weinberg.* 400, 80, 210-A6 (1992)
NGC 4550: A Laboratory for Testing Galaxy Formation. *Hans-Walter Rix, Marijn Franx, David Fisher, & Garth Illingworth.* 400, L5, 214-B1 (1992)
The Opacity of Spiral Disks. *A. Bosma, Y. Byun, K. C. Freeman, & E. Athanassoula.* 400, L21, 214-C10 (1992)
On the Amplification of Large-Scale Magnetic Fields in Spiral Galaxies by Galactic Winds. *S. J. Spencer & L. E. Cram.* 400, 484, 216-C12 (1992)
Are Cluster Ellipticals the Products of Mergers? *Gary A. Mamon.* 401, L3, 227-A10 (1992)
Cosmological Tidal Shear. *John Dubinski.* 401, 441, 228-B12 (1992)
The External Origin of the Gas in S0 Galaxies. *F. Bertola, L. M. Buson, & W. W. Zeilinger.* 401, L79, 233-A12 (1992)

GALAXIES: LOCAL GROUP

A Comparison of the Properties of an Unbiased Sample of OB Associations in the Local Group Galaxies M33 and NGC 6822. *Christine D. Wilson.* 384, L29, 11-B1 (1992)
A New Tidal Model of the Magellanic Stream. *W. L. H. Shuter.* 386, 101, 25-D1 (1992)
Planetary Nebulae as Standard Candles. VIII. Evidence for a Change in the Luminosity Function Cutoff at Low Metallicity. *Robin Ciardullo & George H. Jacoby.* 388, 268, 53-F1 (1992)
Dwarf Spheroidal Galaxies and the Mass of the Neutrino. *Ortwin E. Gerhard & David N. Spergel.* 389, L9, 66-B11 (1992)
Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)
New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)
A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)
Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

GALAXIES: LUMINOSITY FUNCTION, MASS FUNCTION

Predicted Galaxy Counts in CO Emission. *Frances Verter.* 386, 398, 30-D1 (1992)
The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)
Large-Scale Morphological Segregation in the Center for Astrophysics Redshift Survey. *Basílio X. Santiago & Michael A. Strauss.* 387, 9, 37-B7 (1992)
Planetary Nebulae as Standard Candles. VIII. Evidence for a Change in the Luminosity Function Cutoff at Low Metallicity. *Robin Ciardullo & George H. Jacoby.* 388, 268, 53-F1 (1992)
The Mass Distribution Function of Groups of Galaxies. *A. Pisani, G. Giuricin, F. Mardirossian, & M. Mezzetti.* 389, 68, 61-A1 (1992)
Far-Infrared Luminosity Functions of Normal Galaxies. *Takashi Isobe & Eric D. Feigelson.* 79, 197, 16-F3 (1992)
The Mass Function of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 394, 409, 134-D5 (1992)
The Evolution of the QSO Luminosity Function Up to $z = 4$: The Role of K-Correction Uncertainties. *Emanuele Giallongo & Fausto Vagnetti.* 396, 411, 162-E5 (1992)
The He I λ2.06 Microns/Brγ Ratio in Starburst Galaxies—An Objective Constraint on the Upper Mass Limit to the Initial Mass Function. *René Doyon, P. J. Puxley, & R. D. Joseph.* 397, 117, 169-D9 (1992)
Dynamical Properties of Compact Groups of Galaxies. *Paul Hickson, Claudia Mendes de Oliveira, John P. Huchra, & Giorgio G. C. Palumbo.* 399, 353, 202-C11 (1992)

GALAXIES: MAGELLANIC CLOUDS

The Formation of Globular Clusters in Merging and Interacting Galaxies. *Keith M. Ashman & Stephen E. Zepf.* 384, 50, 1-F1 (1992)

Abundances of the Heavy Elements in the Magellanic Clouds. III. Interpretation of Results. *Stephen C. Russell & Michael A. Dopita.* 384, 508, 8-D9 (1992)

The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)

On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

A New Tidal Model of the Magellanic Stream. *W. L. H. Shuter.* 386, 101, 25-D1 (1992)

A Comprehensive X-Ray Study of the Small Magellanic Cloud. *Qingde Wang & Xiaoyi Wu.* 78, 391, 7-G5 (1992)

Line Fluorescence from the Ring around SN 1987A. *Eli Dwek & James E. Felten.* 387, 551, 45-E1 (1992)

The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)

A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

The Chemical Composition of Magellanic Cloud Cepheids and Nonvariable Supergiants. *R. Earle Luck & David L. Lambert.* 79, 303, 18-E3 (1992)

Stellar Evolution in Blue Populous Clusters of the Small Magellanic Cloud and the Problems of Envelope Semiconvection and Convective Core Overshooting. *Richard B. Stothers & Chao-wen Chin.* 390, 136, 75-F6 (1992)

The Absolute Magnitudes of LMC RR Lyrae Variables and the Ages of Galactic Globular Clusters. *Alistair R. Walker.* 390, L81, 85-A7 (1992)

Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

The Kinematics of Planetary Nebulae in the Outer Fields of the Large Magellanic Cloud. *E. Vassiliadis, Stephen J. Meatheringham, & Michael A. Dopita.* 394, 489, 135-D7 (1992)

Interstellar Dust from the Milky Way to the Magellanic Clouds. *Yichuan C. Pei.* 395, 130, 141-G1 (1992)

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

IRAS Observations and the Stellar Content of H II Regions in the Large Magellanic Cloud. *Kathleen DeGioia-Eastwood.* 397, 542, 177-F7 (1992)

OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

Polarization and the Envelopes of B[e] Supergiants in the Magellanic Clouds. *A. M. Magalhães.* 398, 286, 185-C11 (1992)

Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera. *J. C. Blades, M. J. Barlow, R. Albrecht, C. Barbieri, A. Boksenberg, P. Crane, J. M. Deharveng, M. J. Disney, P. Jakobsen, T. M. Kamperman, I. R. King, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, S. Osmer, & W. B. Sparks.* 398, L41, 187-F7 (1992)

The Age of the Small Magellanic Cloud Cluster Lindsay 11. *J. R. Mould, J. B. Jensen, & G. S. Da Costa.* 82, 489, 55-E11 (1992)

Two-Stage Starbursts in the Large Magellanic Cloud: N11 as a Once and Future 30 Doradus. *Nolan R. Walborn & Joel Wm. Parker.* 399, L87, 201-C5 (1992)

The Young Large Magellanic Cloud Cluster NGC 2214 with a Single Supergiant Branch. *Myung Gyoon Lee.* 399, L133, 208-B1 (1992)

Optical Spectroscopy of Magellanic Cloud Planetary Nebulae. III. *E. Vassiliadis, Michael A. Dopita, D. H. Morgan, & J. F. Bell.* 83, 87, 58-B1 (1992)

Observations of the Large Magellanic Cloud in High-Energy Gamma Rays. *P. Sreekumar, D. L. Bertsch, B. L. Dingus, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, P. L. Nolan, K. Pinkau, E. J. Schneid, & D. J. Thompson.* 400, L67, 220-E1 (1992)

Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope. *Olaf Vancura, William P. Blair, Knox S. Long, Arthur F. Davidsen, Charles W. Bowers, W. Van Dyke Dixon, Samuel T. Durrance, Paul D. Feldman, Henry C. Ferguson, Richard C. Henry, Randy A. Kimble, Gerard A. Kriss, Jeffrey W. Kruk, & H. Warren Moos.* 401, 220, 223-G1 (1992)

GALAXIES: NUCLEI

EXOSAT X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)

The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

Accretion Disks in Active Galactic Nuclei: Vertically Averaged Models. *John K. Cannizzo & Christine M. Reiff.* 385, 87, 13-B1 (1992)

Accretion Disks in Active Galactic Nuclei: Vertically Explicit Models. *John K. Cannizzo.* 385, 94, 13-B9 (1992)

Gas Clouds from Tidally Disrupted Stars in Active Galactic Nuclei. *Nico Roos.* 385, 108, 13-C11 (1992)

Inner Shell of Optically Thin Gas in Active Galactic Nuclei. *Wei Zheng.* 385, 127, 13-E4 (1992)

The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

Magnetic Acceleration of Broad Emission-Line Clouds in Active Galactic Nuclei. *Robert T. Emmering, Roger D. Blandford, & Isaac Shlosman.* 385, 460, 19-A1 (1992)

The Ionizing Radiation Field of NGC 4388 and Its Relation to the Extranuclear Emission-Line Regions. *Luis Colina.* 386, 59, 24-G5 (1992)

Origin of Far-Infrared Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri & Yoshiaki Taniguchi.* 386, 68, 25-A1 (1992)

Optical and Radio Variability in Blazars. *Beth R. Hufnagel & Joel N. Bregman.* 386, 473, 31-C5 (1992)

Anisotropic Ionizing Radiation in Seyfert Galaxies. I. The Extended Narrow-Line Region in Markarian 573. *Zlatan Tsvetanov & J. R. Walsh.* 386, 485, 31-D5 (1992)

Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. II. Galaxy Rotation as Virial Parameter. *Mark Whittle.* 387, 109, 38-D2 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. III. Galaxy Luminosity as Virial Parameter. *Mark Whittle.* 387, 121, 38-E1 (1992)

Mid-Infrared Imaging of Markarian 231 and Arp 220. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 387, L17, 43-B13 (1992)

Standing Shocks in Accretion Disks and the Spectra of Active Galactic Nuclei. *Sandip K. Chakrabarti & Paul J. Wiita.* 387, L21, 43-C4 (1992)

Luminosity Functions, Relativistic Beaming, and Unified Theories of High-Luminosity Radio Sources. *P. Padovani & C. M. Urry.* 387, 449, 44-C9 (1992)

Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

The Nonthermal Nucleus of M87. *John Kormendy.* 388, L9, 52-B1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. I. A Compilation of Narrow Line Region and Host Galaxy Properties. *Mark Whittle.* 79, 49, 13-A9 (1992)

The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*. *O. R. Williams, M. J. L. Turner, G. C. Stewart, R. D. Saxton, T. Ohashi, K. Makishima, T. Kii, H. Inoue, F. Makino, K. Hayashida, & K. Koyama.* 389, 157, 62-A5 (1992)

Near-Infrared Spectra and Classification Diagnostics of Seyfert Galaxies. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 196, 62-D7 (1992)

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

Hard X-Ray Tests of the Unified Model for an Ultraviolet-detected Sample of Seyfert 2 Galaxies. *John S. Mulchaey, Richard F. Mushotzky, & Kimberly A. Weaver.* 390, L69, 84-G1 (1992)

The Infrared Properties of Quasars and Radio Galaxies: Testing the Unification Schemes. *Timothy M. Heckman, Kenneth C. Chambers, & Marc Postman.* 391, 39, 86-E3 (1992)

Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)

Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

Collective Emission from Rapidly Variable Quasars. *Gregory Benford.* 391, L59, 99-D1 (1992)

Cosmic Gamma-Ray Bursts from Black Hole Tidal Disruption of Stars? *Brandon Carter.* 391, L67, 99-D13 (1992)

An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

From Fairall 9 to High-*z* Objects: Pattern of Change in Ionization Structure. *Wei Zheng, Li-Zhi Fang, & Luc Binette.* 392, 74, 102-A1 (1992)

Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151. *G. A. Kriss, A. F. Davidsen, William P. Blair, C. W. Bowers, W. V. Dixon, S. T. Durrance, P. D. Feldman, H. C. Ferguson, R. C. Henry, R. A. Kimble, J. W. Kruk, Knox S. Long, H. W. Moos, & O. Vancura.* 392, 485, 108-C10 (1992)

Off-Center Nuclei in Galaxies. *R. H. Miller & B. F. Smith.* 393, 508, 122-B7 (1992)

Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)

Near-Infrared Images of the Nuclear Region of NGC 5128. *Paula C. Turner, William J. Forrest, Judith L. Pipher, & Mark A. Shure.* 393, 648, 123-G7 (1992)

Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

Hydromagnetic Disk Winds in Young Stellar Objects and Active Galactic Nuclei. *Guy Pelletier & Ralph E. Pudritz.* 394, 117, 129-D13 (1992)

A 2.18 to 2.28 Micron Study of the Stellar Population in the Nucleus of M82. *Niall I. Gaffney & Dan F. Lester.* 394, 139, 129-F9 (1992)

Gravitational Lensing, Finite Galaxy Cores, and the Cosmological Constant. *Lawrence M. Krauss & Martin White.* 394, 385, 134-B1 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)

Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

Infrared Emission in Seyfert 2 Galaxies: Reprocessed Radiation from a Dusty Torus? *Thaisa Storchi-Bergmann, John S. Mulchaey, & Andrew S. Wilson.* 395, L73, 153-F12 (1992)

Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

The Ionization Cone, Obscured Nucleus, and Gaseous Outflow in NGC 3281: A Prototypical Seyfert 2 Galaxy? *Thaisa Storchi-Bergmann, Andrew S. Wilson, & Jack A. Baldwin.* 396, 45, 155-F1 (1992)

The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

Intermediate-Resolution Spectropolarimetry of 3C 273. *J. A. de Diego, E. Pérez, M. R. Kidger, & L. O. Takalo.* 396, L19, 160-D10 (1992)

Bidimensional Spectroscopy of the Central Kiloparsec of NGC 4151. *E. Mediavilla, S. Arribas, & J. L. Rasilla.* 396, 517, 164-A1 (1992)

Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)

IRAS 03202–5150: A New Ring Active Galactic Nucleus with Obscured Seyfert 1 Nucleus. *Sebastian Llpari & F. Macchetto.* 397, 126, 169-E6 (1992)

Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31. *I. R. King, J. M. Deharveng, R. Albrecht, C. Barbieri, J. C. Blades, A. Boksenberg, P. Crane, M. J. Disney, P. Jakobsen, T. M. Kamperman, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, W. B. Sparks, & S. A. Stanford.* 397, L35, 173-E5 (1992)

X-Ray Luminosity and Spectral Variability of Hard X-Ray–selected Active Galactic Nuclei. *P. Grandi, G. Tagliaferri, P. Giommi, P. Barr, & G. G. C. Palumbo.* 82, 93, 50-C9 (1992)

Detection of Obscured Broad-Line Regions in Four Seyfert 2 Galaxies. *Hien D. Tran, Joseph S. Miller, & Laura E. Kay.* 397, 452, 176-C12 (1992)

O-Star Photoionization Models of Liners with Weak [O I] λ6300 Emission. *Alexei V. Filippenko & Roberto Terlevich.* 397, L79, 181-A1 (1992)

The Nucleus of M31. *Fulvio Melia.* 398, L95, 194-C8 (1992)

A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

Polarization in the Narrow [O III] Lines in Seyfert 2 Galaxies. *Robert W. Goodrich.* 399, 50, 195-F8 (1992)

Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

Normal O Stars in Dense Media Generate LINERs. *Joseph C. Shields.* 399, L27, 200-C1 (1992)

Infrared Fine-Structure Line Diagnostics of Shrouded Active Galactic Nuclei. *G. Mark Voit.* 399, 495, 204-B1 (1992)

Infrared Line Diagnostics of Active Galactic Nuclei. *Luigi Spinoglio & Matthew A. Malkan.* 399, 504, 204-B11 (1992)

Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

Fine-Scale Structure in the -185 Kilometers per Second Absorption by HCO^+ in the Galactic Center. *Jonathan M. Marr, Alexander L. Rudolph, Thomas A. Pauls, Melvyn C. H. Wright, & Donald C. Backer.* 400, L29, 214-D5 (1992)

Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics. *K. A. Weaver, R. F. Mushotzky, K. A. Arnaud, P. J. Serlemitsos, F. E. Marshall, R. Petre, K. M. Jahoda, E. A. Boldt, S. S. Holt, J. Swank, A. E. Szymkowiak, R. Kelley, A. P. Smale, & C. Done.* 401, L11, 227-B9 (1992)

Infrared Lines from Active Galactic Nuclei: A Theoretical Approach. *Marcella Contini & Sueli M. Viegas.* 401, 481, 228-F3 (1992)

OH and H I Absorption at the Nucleus of NGC 660. *Willem A. Baan, James Rhoads, & Aubrey D. Haschick.* 401, 508, 229-A6 (1992)

12 and 20 Micron Imaging of the Starburst Galaxy NGC 253. *R. K. Piña, B. Jones, R. C. Puetter, & W. A. Stein.* 401, L75, 233-A5 (1992)

The Continuum Flux from Sagittarius A* at 222 GHz. *E. Serabyn, J. E. Carlstrom, & N. Z. Scoville.* 401, L87, 233-B11 (1992)

GALAXIES: PECULIAR

Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

GALAXIES: PHOTOMETRY

Stellar Population–induced Peculiar Velocities of Elliptical Galaxies. *Michael D. Gregg.* 384, 43, 1-E5 (1992)

The Faint Galaxy Contribution to the Diffuse Extragalactic Background Light. *Shaun Cole, Marie-Agnes Treyer, & Joseph Silk.* 385, 9, 12-B10 (1992)

Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

The Optical Variability of PKS 2155−304. *Michael T. Carini & H. Richard Miller.* 385, 146, 13-G1 (1992)

Spectroscopy of Galaxies in Distant Clusters. IV. A Catalog of Photometry and Spectroscopy for Galaxies in Seven Clusters with $0.35 < z < 0.55$. *Alan Dressler & James E. Gunn.* 78, 1, 1-B1 (1992)

A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

Infrared Imaging of $z > 2$ Radio Galaxies. *P. J. McCarthy, S. E. Persson, & S. C. West.* 386, 52, 24-F7 (1992)

Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

Constraints on the Universe with a Decaying Cosmological Constant from a Number Count of Faint Galaxies. *Yuzuru Yoshii & Katsuhiko Sato.* 387, L7, 43-B1 (1992)

The Integrated Spectra of Nearby Galaxies: General Properties and Emission-Line Spectra. *Robert C. Kennicutt, Jr.* 388, 310, 54-C1 (1992)

Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)

No Back-Side Infall into the Great Attractor. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 389, L5, 66-B6 (1992)

A Near-Infrared Imaging Survey of Interacting Galaxies: The Small Angular-Size Arp Systems. *Howard A. Bushouse & S. Adam Stanford.* 79, 213, 16-G11 (1992)

A Spectrophotometric Atlas of Galaxies. *Robert C. Kennicutt, Jr.* 79, 255, 17-F7 (1992)

The Structure of Southern Extragalactic Radio Sources. *Paul A. Jones & W. Bruce McAdam.* 80, 137, 24-C3 (1992)

The Internal Extinction in Spiral Galaxies. *Mingsheng Han.* 391, 617, 95-F4 (1992)

Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

Elongated Disks and the Scatter in the Tully-Fisher Relation. *Marijn Franx & Tim de Zeeuw.* 392, L47, 113-B1 (1992)

CCD Photometry of 14 BL Lacertae Objects and Theoretical Model. *G. Z. Xie, K. H. Li, F. K. Liu, R. W. Lu, J. X. Wu, J. H. Fan, Y. Y. Zhu, & F. Z. Cheng.* 80, 683, 32-G11 (1992)

Evidence for a Supermassive Black Hole in NGC 3115. *John Kormendy & Douglas Richstone.* 393, 559, 122-G1 (1992)

Color Gradients in Cooling Flows in Clusters of Galaxies. *Brian R. McNamara & Robert W. O'Connell.* 393, 579, 123-B1 (1992)

Dust and the Transfer of Stellar Radiation within Galaxies. *Adolf N. Witt, Harley A. Thronson, Jr., & John M. Capuano, Jr.* 393, 611, 123-D7 (1992)

Hubble Flows in the Pisces-Perseus Region from the Giovanelli-Haynes Galaxy Sample. *T. Ichikawa & M. Fukugita.* 394, 61, 128-G5 (1992)

I-Band CCD Surface Photometry of Spiral Galaxies in 16 Nearby Clusters. *Mingsheng Han.* 81, 35, 35-E5 (1992)

Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

A Southern Sky Survey of the Peculiar Velocities of 1355 Spiral Galaxies. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 81, 413, 41-B1 (1992)

Peculiar Velocities of Clusters in the Perseus-Pisces Supercluster. *M. Han & J. R. Mould.* 396, 453, 163-B1 (1992)

A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

Large Infrared and Optical Color Gradients in the Cartwheel Ring Galaxy: Evidence for the First Epoch of Star Formation in the Wake of an Expanding Ring. *P. M. Marcum, P. N. Appleton, & J. L. Higdon.* 399, 57, 195-G3 (1992)

How Old Is the $z = 3.4$ Radio Galaxy B2 0902+34. *Peter Eisenhardt & Mark Dickinson.* 399, L47, 200-E4 (1992)

Dynamically Hot Galaxies. I. Structural Properties. *Ralf Bender, David Burstein, & S. M. Faber.* 399, 462, 203-F1 (1992)

The Young Large Magellanic Cloud Cluster NGC 2214 with a Single Supergiant Branch. *Myung Gyoon Lee.* 399, L133, 208-B1 (1992)

The Stellar Content of Central Dominant Galaxies. II. Colors of cD Envelopes. *Glen Mackie.* 400, 65, 209-G1 (1992)

Intensive Optical Monitoring of the BL Lacertae Object PKS 2155−304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

Deep *Hubble Space Telescope* Imaging of a Compact Radio Galaxy at $z = 2.390$. *Rogier Windhorst, Douglas F. Mathis, & William C. Keel.* 400, L1, 214-A8 (1992)

UGC 7636 and NGC 4472: Tidal Interaction between a Stripped Dwarf Irregular and a Giant Elliptical Galaxy. *Richard J. Patterson & Trinh X. Thuan.* 400, L55, 220-C7 (1992)

A Survey of Ultraviolet Variability in Blazars. *Rick Edelson.* 401, 516, 229-B1 (1992)

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

The CFHT North Galactic Pole Faint Galaxy Survey. *L. Infante & C. J. Pritchet.* 83, 237, 61-B1 (1992)

GALAXIES: QUASARS: ABSORPTION LINES

Lyman-Alpha Emission from the Damped Lyman-Alpha System toward H0836+113. *A. M. Wolfe, D. A. Turnshek, K. M. Lanzetta, & J. B. Oke.* 385, 151, 13-G7 (1992)

Magnetic Fields in Damped Lyα Systems. *A. M. Wolfe, K. M. Lanzetta, & A. L. Oren.* 388, 17, 49-C5 (1992)

Detection of Ca II Absorption in the QSO 0958+559 Due to a Heiles Shell in NGC 3079. *Donna S. Womble, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 388, 55, 49-G1 (1992)

A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

Quasar Absorption Lines with a Nonzero Cosmological Constant. *Edwin L. Turner & Satoru Ikeuchi.* 389, 478, 67-D7 (1992)

Extinction in Low-Ionization Broad Absorption Line Quasi-stellar Objects. *David Sprayberry & Craig B. Foltz.* 390, 39, 74-E6 (1992)

The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

The Kinematics of Intermediate-Redshift Gaseous Galaxy Halos. *Kenneth M. Lanzetta & David V. Bowen.* 391, 48, 86-E14 (1992)

Mg II Absorption in the Spectra of 103 QSOs: Implications for the Evolution of Gas in High-Redshift Galaxies. *Charles C. Steidel & Wallace L. W. Sargent.* 80, 1, 22-B1 (1992)

He I Absorption by Lyman-Alpha Clouds and Low-Redshift Lyman-Alpha Clouds. *Jordi Miralda-Escudé & Jeremiah P. Ostriker.* 392, 15, 101-C1 (1992)

Observations of 10 Faint Quasar Candidates in the Field of the Tololo 1037−2703/1038−2712 Quasar Pair. *Peter Jakobsen & M. A. C. Perryman.* 392, 432, 107-F3 (1992)

The Unusual Field of the Quasar 3C 336: Identification of Three Foreground Mg II Absorbing Galaxies. *Charles C. Steidel & Mark Dickinson.* 394, 81, 129-A13 (1992)

QSO Absorbers: Evidence for a Primeval Galaxy Population. *Arati Chokshi.* 395, 21, 140-D5 (1992)

Mg II Absorption by Previously Known Galaxies at $z \approx 0.5$. *Jill Bechtold & Erica Ellingson.* 396, 20, 155-C13 (1992)

The Radio Properties of the Broad-Absorption-Line QSOs. *John T. Stocke, Simon L. Morris, Ray J. Weymann, & Craig B. Foltz.* 396, 487, 163-E5 (1992)

The Ultraviolet Absorption Spectrum of the Quasar H1821+643 (z = 0.297). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)

The Optical Properties of IR-selected and Mg II Broad Absorption Line Quasars. *Todd A. Boroson & Karie A. Meyers.* 397, 442, 176-B13 (1992)

The Redshift Evolution of the Lyman-Alpha Forest: Blending Effects. *Dario Trevese, Emanuele Giallongo, & Luca Camurani.* 398, 491, 190-C1 (1992)

Low-Redshift Lyman-Alpha Absorption Lines and the Dark Matter Halos of Disk Galaxies. *Philip Maloney.* 398, L89, 194-C1 (1992)

A Photometric Search for [O II] Lines in Mg II Quasar Absorption Systems. *Brant O. Nelson & Matthew A. Malkan.* 82, 447, 55-B1 (1992)

H I Imaging of Four Quasar-Galaxy Pairs: The Parent Galaxies of Low-Redshift Quasar Absorption Systems. *C. L. Carilli & J. H. van Gorkom.* 399, 373, 202-E7 (1992)

Pressure-confined Lyα Clouds: Simulation Results versus Observations. *Gerard M. Williger & Arif Babul.* 399, 385, 202-G1 (1992)

Observations of Zn II, Cr II, Fe II, and Ca II in the Damped Lyman-Alpha Absorber at z = 0.692 toward 3C 286. *David M. Meyer & Donald G. York.* 399, L121, 207-G7 (1992)

Discovery of Neutral Hydrogen 21 Centimeter Absorption at Redshift 0.25 toward PKS 1413+135. *C. L. Carilli, Eric S. Perlman, & John T. Stocke.* 400, L13, 214-C1 (1992)

Search for Partial Systemic Lyman Edges in Nearby Quasars. *A. P. Koratkar, A. L. Kinney, & R. C. Bohlin.* 400, 435, 215-F9 (1992)

Hubble Space Telescope Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226−1024. *Kirk T. Korista, Ray J. Weymann, Simon L. Morris, Michael Kopko, Jr., David A. Turnshek, George F. Hartig, Craig B. Foltz, E. Margaret Burbidge, & Vesa T. Junkkarinen.* 401, 529, 229-C1 (1992)

GALAXIES: QUASARS: EMISSION LINES

Statistical Tests of Peaks and Periodicities in the Observed Redshift Distribution of Quasi-stellar Objects. *Debiprosad Duari, Patrick Das Gupta, & Jayant V. Narlikar.* 384, 35, 1-D9 (1992)

Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

Systematic QSO Emission-Line Velocity Shifts and New Unbiased Redshifts. *David Tytler & Xiao-Ming Fan.* 79, 1, 12-B1 (1992)

The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)

Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths. *B. M. Peterson, D. Alloin, D. Axon, T. J. Balonek, R. Bertram, T. A. Boroson, J. A. Christensen, S. D. Clements, M. Dietrich, M. Elvis, A. V. Filippenko, C. M. Gaskell, C. A. Haswell, J. P. Huchra, N. Jackson, W. Kollatschny, K. T. Korista, N. J. Lame, R. J. Leacock, S.-N. Lin, M. A. Malkan, A. S. Monk, M. V. Penston, R. W. Pogge, A. Robinson, E. I. Rosenblatt, J. C. Shields, A. G. Smith, G. M. Stirpe, W.-H. Sun, T. J. Turner, R. M. Wagner, B. J. Wilkes, & B. J. Wills.* 392, 470, 108-B7 (1992)

The Stability of QSO/AGN Broad Emission Line Clouds. *I. S. Krinsky & R. C. Puetter.* 394, 472, 135-C1 (1992)

Lyα and C IV Narrow-Band Imaging of the Gravitational Lens 2237+030. *H. K. C. Yee & M. M. De Robertis.* 398, L21, 187-D1 (1992)

Evidence against Some Orientation Effects in Radio-quiet Quasars. *Todd A. Boroson.* 399, L15, 200-A11 (1992)

Faint Object Spectrograph Observations of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, George F. Hartig, Buell T. Jannuzi, Dan Maoz, & Donald P. Schneider.* 400, L51, 220-C1 (1992)

GALAXIES: QUASARS: GENERAL

EXOSAT X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

Gas Clouds from Tidally Disrupted Stars in Active Galactic Nuclei. *Nico Roos.* 385, 108, 13-C11 (1992)

Inner Shell of Optically Thin Gas in Active Galactic Nuclei. *Wei Zheng.* 385, 127, 13-E4 (1992)

Probability Distributions for the Magnification of Quasars due to Microlensing. *Joachim Wambsganss.* 386, 19, 24-C7 (1992)

Caustic-induced Features in Microlensing Magnification Probability Distributions. *Kevin P. Rauch, Shude Mao, Joachim Wambsganss, & Bohdan Paczyński.* 386, 30, 24-D10 (1992)

The Angular Correlation of Quasars and Abell Clusters. *Roger W. Romani & Dan Maoz.* 386, 36, 24-E3 (1992)

Compact Steep Spectrum Sources and Linear Size Evolution. *L. I. Onuora.* 386, 452, 31-A7 (1992)

Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

A Deficiency of Large-Scale Pairs among Nearby Quasars. *Robert C. Roeder.* 387, L13, 43-B8 (1992)

Standing Shocks in Accretion Disks and the Spectra of Active Galactic Nuclei. *Sandip K. Chakrabarti & Paul J. Wiita.* 387, L21, 43-C4 (1992)

Coronal Lines and Starburst Features in Two New *IRAS* Active Galactic Nuclei: IRAS 04493−6441 and IRAS 22419−6049. *Sebastian Lipari & F. Macchetto.* 387, 522, 45-B9 (1992)

Multiple Quasars with Large Magnitude Differences: Extreme Magnification by Gravitational Lenses? *Aggeliki Kassiola & Israel Kovner.* 388, 33, 49-D10 (1992)

The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*. *O. R. Williams, M. J. L. Turner, G. C. Stewart, R. D. Saxton, T. Ohashi, K. Makishima, T. Kii, H. Inoue, F. Makino, K. Hayashida, & K. Koyama.* 389, 157, 62-A5 (1992)

The Contribution of Quasars to the Ultraviolet Extragalactic Background. *Piero Madau.* 389, L1, 66-B1 (1992)

The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

Formation of a Giant Galactic Gaseous Halo: Metal Absorption Lines and High-Velocity Clouds. *Fan Li & Satoru Ikeuchi.* 390, 405, 80-D7 (1992)

TeV Gamma Rays from 3C 279: A Possible Probe of Origin and Intergalactic Infrared Radiation Fields. *F. W. Stecker, O. C. De Jager, & M. H. Salamon.* 390, L49, 84-D7 (1992)

The Infrared Properties of Quasars and Radio Galaxies: Testing the Unification Schemes. *Timothy M. Heckman, Kenneth C. Chambers, & Marc Postman.* 391, 39, 86-E3 (1992)

The Emission-Line Properties of Low-Redshift Quasi-stellar Objects. *Todd A. Boroson & Richard F. Green.* 80, 109, 23-G9 (1992)

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

Time Series Analysis in Astronomy: An Application to Quasar Variability Studies. *R. Vio, S. Cristiani, O. Lessi, & A. Provenzale.* 391, 518, 94-D5 (1992)

Active Galactic Nuclei. IV. Supplying Black Hole Clusters by Tidal Disruption and by Tidal Capture of Stars. *W. R. Stoeger, S.J., A. G. Pacholczyk, & T. F. Stepinski.* 391, 550, 94-F13 (1992)

Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

Emission-Line Objects near Quasi-stellar Object Absorbers. III. Clustering and Colors of Moderate-Redshift H II Regions. *Brian Yanny & Donald G. York.* 391, 569, 95-A8 (1992)

Comparisons of the Emission-Line Properties of Radio-loud and Radio-quiet QSOs at High Redshift. *Michael R. Corbin.* 391, 577, 95-B5 (1992)

The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

Collective Emission from Rapidly Variable Quasars. *Gregory Benford.* 391, L59, 99-D1 (1992)

HRCam Survey for Closely Spaced Gravitational Lenses. *David Crampton, Robert D. McClure, & J. Murray Fletcher.* 392, 23, 101-C10 (1992)

Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)

Gravitational Microlensing: The Effect of a Single Lens and the Impact of Sparse Sampling. *Joachim Wambsganss.* 392, 424, 107-E8 (1992)

Observations of 10 Faint Quasar Candidates in the Field of the Tololo 1037−2703/1038−2712 Quasar Pair. *Peter Jakobsen & M. A. C. Perryman.* 392, 432, 107-F3 (1992)

Multicolor Images of Spatially Resolved Structures around High-Redshift Quasars. *Matthew D. Lehnert, Timothy M. Heckman, Kenneth C. Chambers, & George K. Miley.* 393, 68, 114-G12 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

Identification and Spectroscopy of Radio Sources from the Third Bologna Survey. *D. J. Thompson, S. Djorgovski, M. Vigotti, & G. Grueff.* 81, 1, 35-B1 (1992)

Electromagnetically Driven Relativistic Jets: A Class of Self-similar Solutions. *Zhi-Yun Li, Tzihong Chiueh, & Mitchell C. Begelman.* 394, 459, 135-B1 (1992)

Near-Infrared Broad-Line Profiles in Low-Redshift QSOs. *Keith L. Thompson.* 395, 403, 147-C13 (1992)

Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

The Evolution of the QSO Luminosity Function Up to $z = 4$: The Role of *K*-Correction Uncertainties. *Emanuele Giallongo & Fausto Vagnetti.* 396, 411, 162-E5 (1992)

The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)

A Direct Gravitational Lensing Test for 10^6 $M_\odot$ Black Holes in Halos of Galaxies. *Joachim Wambsganss & Bohdan Paczyński.* 397, L1, 173-A8 (1992)

Optical Identification, Radio Galaxy Environment, and Statistical Properties for a Homogeneous Sample of 3196 Radio Sources from the Texas Survey. *Elizabeth P. Bozyan.* 82, 1, 49-B1 (1992)

A Direct Measure of the Gunn-Peterson Effect at $z = 3$: Limits on the Baryon Density of the Intergalactic Medium at High Redshifts. *Emanuele Giallongo, Stefano Cristiani, & Dario Trevese.* 398, L9, 187-B7 (1992)

The Evolution of Quasar Clustering. *Paola Andreani & Stefano Cristiani.* 398, L13, 187-C1 (1992)

A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)

An Objective Classification Scheme for QSO Spectra. *Paul J. Francis, Paul C. Hewett, Craig B. Foltz, & Frederic H. Chaffee.* 398, 476, 190-A13 (1992)

The Case Low-Dispersion Northern Sky Survey. XIII. A Region in Central Bootes and Corona Borealis. *C. B. Stephenson, Peter Pesch, & D. Jack MacConnell.* 82, 471, 55-D3 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

Submillimeter Observations of Radio-quiet Quasars and a Luminous Seyfert 1 Galaxy Including the First Detections. *Richard Barvainis, Robert Antonucci, & Paul Coleman.* 399, L19, 200-B1 (1992)

The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

Analysis of Soft X-Ray Excesses of Quasi-stellar Objects by Using Their IPC Spectra. *Y. Y. Zhou & K. N. Yu.* 400, 430, 215-F1 (1992)

Radiative Acceleration by Synchrotron Sources. *G. Ghisellini, G. Bodo, & E. Trussoni.* 401, 87, 222-B5 (1992)

On the Uncertainties in the Properties of Quasar Host Galaxies. *R. G. Abraham, C. S. Crawford, & I. M. McHardy.* 401, 474, 228-E9 (1992)

A Survey of Ultraviolet Variability in Blazars. *Rick Edelson.* 401, 516, 229-B1 (1992)

GALAXIES: QUASARS: INDIVIDUAL

Name: Fairall 9

Dust Reverberation: A Model for the Infrared Variations of Fairall 9. *Richard Barvainis.* 400, 502, 216-E5 (1992)

Alphanumeric: 0014+813

The Lyman Forest of 0014+813. *M. Rauch, R. F. Carswell, F. H. Chaffee, C. B. Foltz, J. K. Webb, R. J. Weymann, J. Bechtold, & R. F. Green.* 390, 387, 80-B11 (1992)

Alphanumeric: 0226−1024

Hubble Space Telescope Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226−1024. *Kirk T. Korista, Ray J. Weymann, Simon L. Morris, Michael Kopko, Jr., David A. Turnshek, George F. Hartig, Craig B. Foltz, E. Margaret Burbidge, & Vesa T. Junkkarinen.* 401, 529, 229-C1 (1992)

Alphanumeric: 0241+62

SIGMA Observation of Two Quasars: 3C 273 and 0241+62. *L. Bassani, E. Jourdain, J. P. Roques, L. Bouchet, J. Ballet, F. Lebrun, Ph. Laurent, B. Cordier, R. Sunyaev, E. Churazov, M. Gilfanov, A. Finogenov, A. Dyachkov, N. Khavenson, B. Novikov, & I. Chulkov.* 396, 504, 163-F11 (1992)

Alphanumeric: 0453−423

The Kinematics of Intermediate-Redshift Gaseous Galaxy Halos. *Kenneth M. Lanzetta & David V. Bowen.* 391, 48, 86-E14 (1992)

Alphanumeric: 0957+561

The Radio Time Delay in the Double Quasar 0957+561. *J. Lehár, J. N. Hewitt, D. H. Roberts, & B. F. Burke.* 384, 453, 7-G1 (1992)

The Time Delay of Gravitational Lens 0957+561. I. Methodology and Analysis of Optical Photometric Data. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 404, 18-C4 (1992)

The Time Delay of Gravitational Lens 0957+561. II. Analysis of Radio Data and Combined Optical-Radio Analysis. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 416, 18-D4 (1992)

Reconciling the Image Brightness Ratios in the Gravitational Lens System 0957+561. *Samuel R. Conner, Joseph Lehár, & Bernard F. Burke.* 387, L61, 48-B7 (1992)

A Direct Gravitational Lensing Test for 10^6 $M_\odot$ Black Holes in Halos of Galaxies. *Joachim Wambsganss & Bohdan Paczyński.* 397, L1, 173-A8 (1992)

Alphanumeric: 0958+559

Detection of Ca II Absorption in the QSO 0958+559 Due to a Heiles Shell in NGC 3079. *Donna S. Womble, Vesa T. Junkkarinen, & E. Margaret Burbidge.* 388, 55, 49-G1 (1992)

Alphanumeric: 1208+101

A Gravitational Lens Candidate Discovered with the *Hubble Space Telescope*. *Dan Maoz, John N. Bahcall, Donald P. Schneider, Rodger Doxsey, Neta A. Bahcall, Alexei V. Filippenko, W. Miller Goss, Ofer Lahav, & Brian Yanny.* 386, L1, 29-B1 (1992)

Alphanumeric: 1208+1011

Hubble Space Telescope Imaging of the Large-Redshift Gravitational Lens Candidate 1208+1011. *John N. Bahcall, Dan Maoz, Donald P. Schneider, Brian Yanny, & Rodger Doxsey.* 392, L1, 106-A7 (1992)

Alphanumeric: 1229−021

Discovery of Extended Faraday Rotation Compatible with Spiral Structure in an Intervening Galaxy at $z = 0.395$: New Observations of PKS 1229−021. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 387, 528, 45-C1 (1992)

The Kinematics of Intermediate-Redshift Gaseous Galaxy Halos. *Kenneth M. Lanzetta & David V. Bowen.* 391, 48, 86-E14 (1992)

Alphanumeric: 2128−123

The Kinematics of Intermediate-Redshift Gaseous Galaxy Halos. *Kenneth M. Lanzetta & David V. Bowen.* 391, 48, 86-E14 (1992)

Alphanumeric: 2237+030

Lyα and C IV Narrow-Band Imaging of the Gravitational Lens 2237+030. *H. K. C. Yee & M. M. De Robertis.* 398, L21, 187-D1 (1992)

Alphanumeric: 2237+0305

Continuum and C III] Microlensing in Q2237+0305 and the Quasar Geometry. *René Racine.* 395, L65, 153-F1 (1992)

Microlensed Light Curves for Thin Accretion Disks around Schwarzschild and Kerr Black Holes. *M. Jaroszyński, J. Wambsganss, & B. Paczyński.* 396, L65, 167-A1 (1992)

Alphanumeric: 3C 273

A New Hard X-Ray Source 15′ Away from 3C 273? *E. Jourdain, L. Bassani, J. P. Roques, P. Mandrou, J. Ballet, A. Claret, A. Goldwurm, F. Lebrun, A. Finogenov, E. Churazov, M. Gilfanov, R. Sunyaev, A. Dyachkov, N. Khavenson, B. Novikov, & N. Kuleshova.* 395, L69, 153-F6 (1992)

Intermediate-Resolution Spectropolarimetry of 3C 273. *J. A. de Diego, E. Pérez, M. R. Kidger, & L. O. Takalo.* 396, L19, 160-D10 (1992)

SIGMA Observation of Two Quasars: 3C 273 and 0241+62. *L. Bassani, E. Jourdain, J. P. Roques, L. Bouchet, J. Ballet, F. Lebrun, Ph. Laurent, B. Cordier, R. Sunyaev, E. Churazov, M. Gilfanov, A. Finogenov, A. Dyachkov, N. Khavenson, B. Novikov, & I. Chulkov.* 396, 504, 163-F11 (1992)

Alphanumeric: 3C 279

Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*. *R. C. Hartman, D. L. Bertsch, C. E. Fichtel, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, H. I. Nel, P. L. Nolan, K. Pinkau, H. Rothermel, E. Schneid, M. Sommer, P. Sreekumar, & D. J. Thompson.* 385, L1, 17-A8 (1992)

TeV Gamma Rays from 3C 279: A Possible Probe of Origin and Intergalactic Infrared Radiation Fields. *F. W. Stecker, O. C. De Jager, & M. H. Salamon.* 390, L49, 84-D7 (1992)

A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

Alphanumeric: 3C 334

Three-Epoch VLBI Observations of the Nucleus in the Lobe-dominated Quasar 3C 334. *D. H. Hough, A. C. S. Readhead, D. A. Wood, Jr., & J. J. Feldmeier.* 393, 81, 115-B1 (1992)

Alphanumeric: 3C 336

The Unusual Field of the Quasar 3C 336: Identification of Three Foreground Mg II Absorbing Galaxies. *Charles C. Steidel & Mark Dickinson.* 394, 81, 129-A13 (1992)

Alphanumeric: 3C 345

Kinematics of the Parsec-Scale Relativistic Jet in 3C 345. *Stephen C. Unwin & Ann E. Wehrle.* 398, 74, 183-A1 (1992)

Alphanumeric: 4C 34.47

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

Alphanumeric: CSO 203

Broad Absorption-Line Time Variability in the QSO CSO 203. *Thomas A. Barlow, Vesa T. Junkkarinen, E. Margaret Burbidge, Ray J. Weymann, Simon L. Morris, & Kirk T. Korista.* 397, 81, 169-A11 (1992)

Alphanumeric: H0836+113

Lyman-Alpha Emission from the Damped Lyman-Alpha System toward H0836+113. *A. M. Wolfe, D. A. Turnshek, K. M. Lanzetta, & J. B. Oke.* 385, 151, 13-G7 (1992)

Alphanumeric: H1821+643

The Ultraviolet Absorption Spectrum of the Quasar H1821+643 (z = 0.297). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

Alphanumeric: IRAS 13349+2438

Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

Alphanumeric: NRAO 140

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

Alphanumeric: PKS 0438−436

PKS 0438−436: A High-Redshift Quasar with Strong X-Ray Absorption. *Belinda J. Wilkes, Martin Elvis, Fabrizio Fiore, Jonathan C. McDowell, Harvey Tananbaum, & Andrew Lawrence.* 393, L1, 120-A9 (1992)

Alphanumeric: UM 673

A Spectroscopic Study of UM 673 A and B: On the Size of Lyman-Alpha Clouds. *A. Smette, J. Surdej, P. A. Shaver, C. B. Foltz, F. H. Chaffee, R. J. Weymann, R. E. Williams, & P. Magain.* 389, 39, 60-E1 (1992)

GALAXIES: SEYFERT

EXOSAT X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

Gas Clouds from Tidally Disrupted Stars in Active Galactic Nuclei. *Nico Roos.* 385, 108, 13-C11 (1992)

Inner Shell of Optically Thin Gas in Active Galactic Nuclei. *Wei Zheng.* 385, 127, 13-E4 (1992)

X-Ray Continuum and Line Emission of the Seyfert Galaxy MCG−5-23-16. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 385, 132, 13-E10 (1992)

The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

The Ionizing Radiation Field of NGC 4388 and Its Relation to the Extranuclear Emission-Line Regions. *Luis Colina.* 386, 59, 24-G5 (1992)

Origin of Far-Infrared Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri & Yoshiaki Taniguchi.* 386, 68, 25-A1 (1992)

Anisotropic Ionizing Radiation in Seyfert Galaxies. I. The Extended Narrow-Line Region in Markarian 573. *Zlatan Tsvetanov & J. R. Walsh.* 386, 485, 31-D5 (1992)

Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. II. Galaxy Rotation as Virial Parameter. *Mark Whittle.* 387, 109, 38-D2 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. III. Galaxy Luminosity as Virial Parameter. *Mark Whittle.* 387, 121, 38-E1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. I. A Compilation of Narrow Line Region and Host Galaxy Properties. *Mark Whittle.* 79, 49, 13-A9 (1992)

Fabry-Perot Images of NGC 1275 and Its Puzzling High-Velocity System. *Adeline Caulet, Bruce E. Woodgate, Larry W. Brown, Theodore R. Gull, Paul Hintzen, James D. Lowenthal, Ronald J. Oliversen, & Michael M. Ziegler.* 388, 301, 54-A12 (1992)

EXOSAT Observations of the Broad-Line Radio Galaxy 3C 382. *K. K. Ghosh & S. Soundararajaperumal.* 389, 179, 62-C1 (1992)

Near-Infrared Spectra and Classification Diagnostics of Seyfert Galaxies. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 196, 62-D7 (1992)

The Broad Emission-Line Profiles and Profile Variability of the Seyfert 1 Galaxy Arakelian 120. *Kirk T. Korista.* 79, 285, 18-C7 (1992)

Hard X-Ray Tests of the Unified Model for an Ultraviolet-detected Sample of Seyfert 2 Galaxies. *John S. Mulchaey, Richard F. Mushotzky, & Kimberly A. Weaver.* 390, L69, 84-G1 (1992)

Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)

The Emission-Line Properties of Low-Redshift Quasi-stellar Objects. *Todd A. Boroson & Richard F. Green.* 80, 109, 23-G9 (1992)

Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)

An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

From Fairall 9 to High-z Objects: Pattern of Change in Ionization Structure. *Wei Zheng, Li-Zhi Fang, & Luc Binette.* 392, 74, 102-A1 (1992)

Intergalactic Ionizing Flux from Active Galactic Nuclei. *Nobuo Terasawa.* 392, L15, 106-C1 (1992)

Steps toward Determination of the Size and Structure of the Broad-Line Region in Active Galactic Nuclei. III. Further Observations of NGC 5548 at Optical Wavelengths. *B. M. Peterson, D. Alloin, D. Axon, T. J. Balonek, R. Bertram, T. A. Boroson, J. A. Christensen, S. D. Clements, M. Dietrich, M. Elvis, A. V. Filippenko, C. M. Gaskell, C. A. Haswell, J. P. Huchra, N. Jackson, W. Kollatschny, K. T. Korista, N. J. Lame, R. J. Leacock, S.-N. Lin, M. A. Malkan, A. S. Monk, M. V. Penston, R. W. Pogge, A. Robinson, E. I. Rosenblatt, J. C. Shields, A. G. Smith, G. M. Stirpe, W.-H. Sun, T. J. Turner, R. M. Wagner, B. J. Wilkes, & B. J. Wills.* 392, 470, 108-B7 (1992)

Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151. *G. A. Kriss, A. F. Davidsen, William P. Blair, C. W. Bowers, W. V. Dixon, S. T. Durrance, P. D. Feldman, H. C. Ferguson, R. C. Henry, R. A. Kimble, J. W. Kruk, Knox S. Long, H. W. Moos, & O. Vancura.* 392, 485, 108-C10 (1992)

On the Use of Forbidden Lines as Density Diagnostics in Stratified Media. *Pedro N. Safier.* 392, 492, 108-D5 (1992)

The Spatial Distribution of Active Galactic Nuclei. I. The Density of Seyfert Galaxies and Liners. *John Huchra & Richard Burg.* 393, 90, 115-C1 (1992)

Optical Spectroscopy and Narrow-Band Images of the Variable Seyfert 1 Galaxy NGC 3783. *Claudia Winge, M. G. Pastoriza, T. Storchi-Bergmann, & S. Lipari.* 393, 98, 115-C11 (1992)

Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548. *J. Clavel, K. Nandra, F. Makino, K. A. Pounds, G. A. Reichert, C. M. Urry, W. Wamsteker, M. Peracaula-Bosch, G. C. Stewart, & C. Otani.* 393, 113, 115-E1 (1992)

Twin Peaks: IC 4329A and Arakelian 120. *P. Marziani, M. Calvani, & J. W. Sulentic.* 393, 658, 124-A5 (1992)

The Kinematics of the Extended Gas in the Seyfert Galaxy NGC 3516. *John S. Mulchaey, Zlatan Tsvetanov, Andrew S. Wilson, & Ismael Pérez-Fournon.* 394, 91, 129-B11 (1992)

Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

The Broad Emission Line and Continuum Variations of Seyfert Galaxies. I. Time Scales and Amplitudes. *Edward I. Rosenblatt, Matthew A. Malkan, Wallace L. W. Sargent, & Anthony C. S. Readhead.* 81, 59, 35-G9 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)

X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

Infrared Emission in Seyfert 2 Galaxies: Reprocessed Radiation from a Dusty Torus? *Thaisa Storchi-Bergmann, John S. Mulchaey, & Andrew S. Wilson.* 395, L73, 153-F12 (1992)

The Ionization Cone, Obscured Nucleus, and Gaseous Outflow in NGC 3281: A Prototypical Seyfert 2 Galaxy? *Thaisa Storchi-Bergmann, Andrew S. Wilson, & Jack A. Baldwin.* 396, 45, 155-F1 (1992)

An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

Bidimensional Spectroscopy of the Central Kiloparsec of NGC 4151. *E. Mediavilla, S. Arribas, & J. L. Rasilla.* 396, 517, 164-A1 (1992)

IRAS 03202−5150: A New Ring Active Galactic Nucleus with Obscured Seyfert 1 Nucleus. *Sebastian Lipari & F. Macchetto.* 397, 126, 169-E6 (1992)

The Optical Properties of IR-selected and Mg II Broad Absorption Line Quasars. *Todd A. Boroson & Karie A. Meyers.* 397, 442, 176-B13 (1992)

Detection of Obscured Broad-Line Regions in Four Seyfert 2 Galaxies. *Hien D. Tran, Joseph S. Miller, & Laura E. Kay.* 397, 452, 176-C12 (1992)

The Near-Ultraviolet Spectrum of Markarian 205. *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Edward B. Jenkins.* 398, 495, 190-C7 (1992)

X-Ray Observations of the Seyfert 1 Galaxy MCG 2-58-22. *K. K. Ghosh & S. Soundararajaperumal.* 398, 501, 190-D1 (1992)

A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

Polarization in the Narrow [O III] Lines in Seyfert 2 Galaxies. *Robert W. Goodrich.* 399, 50, 195-F8 (1992)

Submillimeter Observations of Radio-quiet Quasars and a Luminous Seyfert 1 Galaxy Including the First Detections. *Richard Barvainis, Robert Antonucci, & Paul Coleman.* 399, L19, 200-B1 (1992)

Radiation-Pressure–supported Obscuring Tori around Active Galactic Nuclei. *Edward A. Pier & Julian H. Krolik.* 399, L23, 200-B8 (1992)

Normal O Stars in Dense Media Generate LINERs. *Joseph C. Shields.* 399, L27, 200-C1 (1992)

Infrared Line Diagnostics of Active Galactic Nuclei. *Luigi Spinoglio & Matthew A. Malkan.* 399, 504, 204-B11 (1992)

Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

Accretion Disk Self-Eclipse: X-Ray Light Curve and Emission Line. *G. Bao & Z. Stuchlik.* 400, 163, 211-A1 (1992)

Infrared Spectra of Obscuring Dust Tori around Active Galactic Nuclei. I. Calculational Method and Basic Trends. *Edward A. Pier & Julian H. Krolik.* 401, 99, 222-C5 (1992)

Seyfert Galaxy Ultraviolet Emission-Line Intensities and Variability: A Self-consistent Photoionization Analysis Applied to Broad-Line–emitting Gas in NGC 3783. *Anuradha P. Koratkar & Gordon M. MacAlpine.* 401, 110, 222-D3 (1992)

Broad Band X-Ray Telescope Observations of NGC 4151: Iron Line Diagnostics. *K. A. Weaver, R. F. Mushotzky, K. A. Arnaud, P. J. Serlemitsos, F. E. Marshall, R. Petre, K. M. Jahoda, E. A. Boldt, S. S. Holt, J. Swank, A. E. Szymkowiak, R. Kelley, A. P. Smale, & C. Done.* 401, L11, 227-B9 (1992)

GALAXIES: SPIRAL

^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)

The Abundance Gradients across the Spiral Galaxies NGC 628 and NGC 6946. *Julien Belley & Jean-René Roy.* 78, 61, 2-C7 (1992)

Star Formation Efficiency Patterns in the Spiral Arms of M51. *Johan H. Knapen, John E. Beckman, Jordi Cepa, Thijs van der Hulst, & Richard J. Rand.* 385, L37, 23-B7 (1992)

Swing Amplification of Nonaxisymmetric Perturbations in Stars and Gas in a Sheared Galactic Disk. *Chanda J. Jog.* 390, 378, 80-B1 (1992)

Dissipational Galaxy Formation. II. Effects of Star Formation. *Neal Katz.* 391, 502, 94-B7 (1992)

The X-Ray Spectra of Galaxies. II. Average Spectral Properties and Emission Mechanisms. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 393, 134, 115-F12 (1992)

The Structure of NGC 4565 at 100, 160, and 200 Microns: Continuum Dust Emission in a Quiescent Sb Galaxy. *G. Engargiola & D. A. Harper.* 394, 104, 129-C13 (1992)

Reproducing the Local and Global Morphological Segregation between S and S0 Galaxies in Rich Clusters by Simple Ram-Pressure Stripping. *José M. Solanes & Eduardo Salvador-Solé.* 395, 91, 141-C1 (1992)

Ultraviolet Imaging Telescope Observations of the ScI Galaxy NGC 628 (M74). *Peter C. Chen, Robert H. Cornett, Morton S. Roberts, Ralph C. Bohlin, Susan G. Neff, Robert W. O'Connell, Ronald A. Parise, Andrew M. Smith, & Theodore P. Stecher.* 395, L41, 145-C5 (1992)

A Dynamical Analysis of the Barred Spiral Galaxy NGC 3359. *Roger Ball.* 395, 418, 147-E5 (1992)

Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

The Oxygen Abundance Gradient in the Barred Spiral Galaxy NGC 4303. *Pierre Martin & Jean-René Roy.* 397, 463, 176-D13 (1992)

Generalized Newtonian Force Law and Hidden Mass. *Richard L. Liboff.* 397, L71, 180-G1 (1992)

On the Distribution of Pitch Angles in External Galactic Spirals NGC 1232 and NGC 5457. *William S. Russell & William W. Roberts, Jr.* 398, 94, 183-B9 (1992)

The Opacity of Spiral Disks. *A. Bosma, Y. Byun, K. C. Freeman, & E. Athanassoula.* 400, L21, 214-C10 (1992)

On the Amplification of Large-Scale Magnetic Fields in Spiral Galaxies by Galactic Winds. *S. J. Spencer & L. E. Cram.* 400, 484, 216-C12 (1992)

NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

GALAXIES: STARBURST

Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

Radio and Infrared Emission from Markarian Starburst Galaxies. *Peter C. Stine.* 81, 49, 35-F9 (1992)

High-Resolution 12.4 Micron Images of the Starburst Region in M82. *C. M. Telesco & D. Y. Gezari.* 395, 461, 148-B11 (1992)

Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

An Interacting Galaxy Pair in the Bootes Void. *D. Weistrop, P. Hintzen, R. C. Kennicutt, Jr., C. Liu, J. Lowenthal, K.-P. Cheng, R. Oliversen, & B. Woodgate.* 396, L23, 160-E1 (1992)

The He I λ2.06 Microns/Brγ Ratio in Starburst Galaxies—An Objective Constraint on the Upper Mass Limit to the Initial Mass Function. *René Doyon, P. J. Puxley, & R. D. Joseph.* 397, 117, 169-D9 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

Lyman-Alpha Emission in Star-forming Galaxies: Low-Redshift Counterparts of Primeval Galaxies? *D. Calzetti & A. L. Kinney.* 399, L39, 200-D5 (1992)

Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

Starbursts Triggered by Central Overpressure in Interacting Galaxies. *Chanda J. Jog & Mousumi Das.* 400, 476, 216-C1 (1992)

Optical Spectrophotometry of Wolf-Rayet Galaxies. *William D. Vacca & Peter S. Conti.* 401, 543, 229-D1 (1992)

GALAXIES: STAR CLUSTERS

On the Origin of Globular Clusters in Elliptical Galaxies. *S. Djorgovski & Basilio X. Santiago.* 391, L85, 99-F13 (1992)

The Young Large Magellanic Cloud Cluster NGC 2214 with a Single Supergiant Branch. *Myung Gyoon Lee.* 399, L133, 208-B1 (1992)

GALAXIES: STELLAR CONTENT

Stellar Population–induced Peculiar Velocities of Elliptical Galaxies. *Michael D. Gregg.* 384, 43, 1-E5 (1992)

High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

A Comparison of the Properties of an Unbiased Sample of OB Associations in the Local Group Galaxies M33 and NGC 6822. *Christine D. Wilson.* 384, L29, 11-B1 (1992)

Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. III. Galaxy Luminosity as Virial Parameter. *Mark Whittle.* 387, 121, 38-E1 (1992)

Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

Coronal Lines and Starburst Features in Two New *IRAS* Active Galactic Nuclei: IRAS 04493−6441 and IRAS 22419−6049. *Sebastian Lipari & F. Macchetto.* 387, 522, 45-B9 (1992)

Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

X-Ray Properties of Bright Far-Infrared Galaxies. *L. P. David, C. Jones, & W. Forman.* 388, 82, 50-B4 (1992)

The Integrated Spectra of Nearby Galaxies: General Properties and Emission-Line Spectra. *Robert C. Kennicutt, Jr.* 388, 310, 54-C1 (1992)

Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)

The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)

The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

Local Dark Matter from a Carefully Selected Sample. *John N. Bahcall, Chris Flynn, & Andrew Gould.* 389, 234, 62-G9 (1992)

Systematic Differences between the Field and Cluster Elliptical Galaxies. *R. R. de Carvalho & S. Djorgovski.* 389, L49, 73-B11 (1992)

A Spectrophotometric Atlas of Galaxies. *Robert C. Kennicutt, Jr.* 79, 255, 17-F7 (1992)

Variability of Near-Infrared Emission Lines in NGC 4151: Implications for Nuclear Star Formation. *Andrea H. Prestwich, Gillian S. Wright, & Robert D. Joseph.* 80, 205, 25-A5 (1992)

A VLBI Search for AGN Radio Cores in Starburst Galaxies. *Colin J. Lonsdale, Carol J. Lonsdale, & Harding E. Smith.* 391, 629, 95-G6 (1992)

Multicolor Images of Spatially Resolved Structures around High-Redshift Quasars. *Matthew D. Lehnert, Timothy M. Heckman, Kenneth C. Chambers, & George K. Miley.* 393, 68, 114-G12 (1992)

Comment on Red Giant Envelopes as Broad Emission-Line Clouds in Active Galactic Nuclei. *John Kwan, F. Z. Cheng, & Zongwei Li.* 393, 87, 115-B9 (1992)

Optical Spectroscopy and Narrow-Band Images of the Variable Seyfert 1 Galaxy NGC 3783. *Claudia Winge, M. G. Pastoriza, T. Storchi-Bergmann, & S. Lipari.* 393, 98, 115-C11 (1992)

High-Resolution Imaging of Virgo Cluster Galaxies. I. The Distance Based on the Brightest Stars in NGC 4571. *Michael J. Pierce, Robert D. McClure, & René Racine.* 393, 523, 122-C9 (1992)

Color Gradients in Cooling Flows in Clusters of Galaxies. *Brian R. McNamara & Robert W. O'Connell.* 393, 579, 123-B1 (1992)

A 2.18 to 2.28 Micron Study of the Stellar Population in the Nucleus of M82. *Niall I. Gaffney & Dan F. Lester.* 394, 139, 129-F9 (1992)

Star Formation in Protogalactic Clouds. *Douglas N. C. Lin & Stephen D. Murray.* 394, 523, 135-G8 (1992)

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

Detection of WC9 Stars in NCG 1365. *Andrew C. Phillips & Peter S. Conti.* 395, L91, 154-A6 (1992)

Preliminary Analysis of an Ultraviolet *Hubble Space Telescope* Faint Object Camera Image of the Center of M31. *I. R. King, J. M. Deharveng, R. Albrecht, C. Barbieri, J. C. Blades, A. Boksenberg, P. Crane, M. J. Disney, P. Jakobsen, T. M. Kamperman, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, W. B. Sparks, & S. A. Stanford.* 397, L35, 173-E5 (1992)

The Distribution and Age of Asymptotic Giant Branch Stars in NGC 205. *T. J. Davidge.* 397, 457, 176-D5 (1992)

Mg and Fe Absorption Features in Elliptical Galaxies. *Guy Worthey, S. M. Faber, & J. Jesús Gonzalez.* 398, 69, 182-G9 (1992)

A Photometric Search for [O II] Lines in Mg II Quasar Absorption Systems. *Brant O. Nelson & Matthew A. Malkan.* 82, 447, 55-B1 (1992)

Large Infrared and Optical Color Gradients in the Cartwheel Ring Galaxy: Evidence for the First Epoch of Star Formation in the Wake of an Expanding Ring. *P. M. Marcum, P. N. Appleton, & J. L. Higdon.* 399, 57, 195-G3 (1992)

Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)

Stellar Population Gradients in Early-Type Galaxies. *Jeffrey A. Munn.* 399, 444, 203-E1 (1992)

The Young Large Magellanic Cloud Cluster NGC 2214 with a Single Supergiant Branch. *Myung Gyoon Lee.* 399, L133, 208-B1 (1992)

The Stellar Content of Central Dominant Galaxies. II. Colors of cD Envelopes. *Glen Mackie.* 400, 65, 209-G1 (1992)

Optical Spectrophotometry of Wolf-Rayet Galaxies. *William D. Vacca & Peter S. Conti.* 401, 543, 229-D1 (1992)

GALAXIES: STRUCTURE

Dark Matter in NGC 4472. *Michael Loewenstein.* 384, 474, 8-A9 (1992)

Ring Structure in Disk Galaxies. *C. E. Zaspel.* 385, 83, 13-A11 (1992)

The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

A Multiwavelength Study of the Peculiar Interacting Galaxies Arp 143 = VV 117: Evidence for an Emerging Ring Galaxy? *P. N. Appleton, J. M. Schombert, & E. I. Robson.* 385, 491, 19-C8 (1992)

Projections of Box-shaped Galaxies. *Barbara S. Ryden.* 386, 42, 24-E10 (1992)

Infrared Imaging of $z > 2$ Radio Galaxies. *P. J. McCarthy, S. E. Persson, & S. C. West.* 386, 52, 24-F7 (1992)

The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

Discovery of Extended Faraday Rotation Compatible with Spiral Structure in an Intervening Galaxy at $z = 0.395$: New Observations of PKS 1229−021. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 387, 528, 45-C1 (1992)

Optical Tracers of Spiral Wave Resonances in Galaxies. II. Hidden Three-Arm Spirals in a Sample of 18 Galaxies. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Luis Montenegro.* 79, 37, 12-E9 (1992)

Propagation of Cosmic-Ray Nuclei in a Diffusing Galaxy with Convective Halo and Thin Matter Disk. *W. R. Webber, M. A. Lee, & M. Gupta.* 390, 96, 75-C3 (1992)

Hubble Space Telescope Imaging of Distant Galaxies: 4C 41.17 at $z = 3.8$. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

The External Origin of the Gas in S0 Galaxies. *F. Bertola, L. M. Buson, & W. W. Zeilinger.* 401, L79, 233-A12 (1992)

GALAXY: ABUNDANCES

Abundances of the Heavy Elements in the Magellanic Clouds. III. Interpretation of Results. *Stephen C. Russell & Michael A. Dopita.* 384, 508, 8-D9 (1992)

Possible Sources of the Population I Lithium Abundance and Light-Element Evolution. *Lawrence E. Brown.* 389, 251, 63-B1 (1992)

The Isotopic Composition of Cosmic-Ray B, C, N, and O: Evidence for an Overabundance of ^{18}O. *P. S. Gibner, R. A. Mewaldt, S. M. Schindler, E. C. Stone, & W. R. Webber.* 391, L89, 99-G5 (1992)

The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

The ^{57} Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

GALAXY: CENTER

Variability of the Galactic Center in the Hard X-Ray Range. *A. Bazzano, C. La Padula, P. Ubertini, & R. K. Sood.* 385, L17, 17-C1 (1992)

Zeeman Measurements of the Magnetic Fields at the Galactic Center. *N. E. B. Killeen, K. Y. Lo, & R. Crutcher.* 385, 585, 20-D6 (1992)

The Bow Shock Structure of IRS 7: Wind-Wind Collision near the Galactic Center. *Farhad Yusef-Zadeh & Fulvio Melia.* 385, L41, 23-B13 (1992)

The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

An Accreting Black Hole Model for Sagittarius A*. *Fulvio Melia.* 387, L25, 43-C10 (1992)

Gravitational Lensing by a Massive Black Hole at the Galactic Center. *Mark Wardle & Farhad Yusef-Zadeh.* 387, L65, 48-C1 (1992)

Cosmic Rays from the Galactic Center: Path Length Distributions and Galactic Gradient in a Modified Model. *T. Wibig.* 390, 105, 75-D1 (1992)

On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

The Galactic Center Wind. *Roger A. Chevalier.* 397, L39, 173-E12 (1992)

A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1−0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

Cosmic Rays from the Galactic Center: Electron and Positron Fluxes in a Modified Model. *Tadeusz Wibig.* 398, 507, 190-D9 (1992)

Detection of [Fe II] Emission in the Galactic Center. *D. L. DePoy.* 398, 512, 190-E1 (1992)

Radio Images of Sagittarius. I. Overview, Sagittarius D, and Sagittarius E. *Harvey S. Liszt.* 82, 495, 55-G1 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

Fine-Scale Structure in the -185 Kilometers per Second Absorption by HCO^+ in the Galactic Center. *Jonathan M. Marr, Alexander L. Rudolph, Thomas A. Pauls, Melvyn C. H. Wright, & Donald C. Backer.* 400, L29, 214-D5 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6–0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

The Radio Counterpart of the Hard X-Ray Source GRS 1758–258. *L. F. Rodríguez, I. F. Mirabel, & J. Martí.* 401, L15, 227-C1 (1992)

Heating of H II Regions with Application to the Galactic Center. *Philip R. Maloney, David J. Hollenbach, & Charles H. Townes.* 401, 559, 229-E5 (1992)

The Continuum Flux from Sagittarius A* at 222 GHz. *E. Serabyn, J. E. Carlstrom, & N. Z. Scoville.* 401, L87, 233-B11 (1992)

GALAXY: EVOLUTION

Constraints on the Age and Evolution of the Galaxy from the White Dwarf Luminosity Function. *M. A. Wood.* 386, 539, 32-B3 (1992)

Possible Sources of the Population I Lithium Abundance and Light-Element Evolution. *Lawrence E. Brown.* 389, 251, 63-B1 (1992)

The Collapse of Our Galaxy and the Formation of the Galactic Disk. *A. Burkert, J. W. Truran, & G. Hensler.* 391, 651, 96-B4 (1992)

GALAXY: FORMATION

Young Globular Clusters in the Milky Way Galaxy. *D. N. C. Lin & Harvey B. Richer.* 388, L57, 59-C1 (1992)

The Collapse of Our Galaxy and the Formation of the Galactic Disk. *A. Burkert, J. W. Truran, & G. Hensler.* 391, 651, 96-B4 (1992)

Latest *COBE* Results, Large-Scale Data, and Predictions of Inflation. *A. Kashlinsky.* 399, L1, 199-G1 (1992)

GALAXY: GENERAL

Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

The Optical Emission-Line Background and Accompanying Emissions at Ultraviolet, Infrared, and Millimeter Wavelengths. *R. J. Reynolds.* 392, L35, 106-E1 (1992)

Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)

Preliminary Separation of Galactic and Cosmic Microwave Emission for the *COBE* Differential Microwave Radiometers. *C. L. Bennett, G. F. Smoot, G. Hinshaw, E. L. Wright, A. Kogut, G. De Amici, S. S. Meyer, R. Weiss, D. T. Wilkinson, S. Gulkis, M. Janssen, N. W. Boggess, E. S. Cheng, M. G. Hauser, T. Kelsall, J. C. Mather, S. H. Moseley, Jr., T. L. Murdock, & R. F. Silverberg.* 396, L7, 160-C1 (1992)

Diffuse 0.511 MeV Line Emission and the Distribution of Positron Annihilation in the Galaxy. *J. G. Skibo, R. Ramaty, & M. Leventhal.* 397, 135, 169-F3 (1992)

GALAXY: GLOBULAR CLUSTERS: GENERAL

The Formation of Globular Clusters in Merging and Interacting Galaxies. *Keith M. Ashman & Stephen E. Zepf.* 384, 50, 1-F1 (1992)

The Dynamical Evolution of Tidal Capture Binaries. *Christopher S. Kochanek.* 385, 604, 20-E13 (1992)

Tidal Evolution of Globular Clusters. I. Method. *K. S. Oh, D. N. C. Lin, & S. J. Aarseth.* 386, 506, 31-F4 (1992)

Tidal Evolution of Globular Clusters. II. The Effects of Galactic Tidal Field and Diffusion. *K. S. Oh & D. N. C. Lin.* 386, 519, 31-G5 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)

CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

Equilibrium Stellar Systems with Spindle Singularities. *Stuart L. Shapiro & Saul A. Teukolsky.* 388, 287, 53-G10 (1992)

Would a Galactic Bar Destroy the Globular Cluster System? *Kevin Long, Jeremiah P. Ostriker, & Luis Aguilar.* 388, 362, 54-G8 (1992)

The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

Young Globular Clusters in the Milky Way Galaxy. *D. N. C. Lin & Harvey B. Richer.* 388, L57, 59-C1 (1992)

Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

The Evolution of a Primordial Binary Population in a Globular Cluster. *Piet Hut, Steve McMillan, & Roger W. Romani.* 389, 527, 68-A8 (1992)

Three-dimensional Hydrodynamical Simulations of Colliding Stars. III. Collisions and Tidal Captures of Unequal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 389, 546, 68-C8 (1992)

Possible Observational Consequences of Primordial Binaries in Globular Clusters. *Ronald E. Taam & D. N. C. Lin.* 390, 440, 80-G6 (1992)

The Absolute Magnitudes of LMC RR Lyrae Variables and the Ages of Galactic Globular Clusters. *Alistair R. Walker.* 390, L81, 85-A7 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. I. Evolutionary Tracks. *Don A. VandenBerg.* 391, 685, 96-E5 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. II. Isochrones and Luminosity Functions. *Peter A. Bergbusch & Don A. VandenBerg.* 81, 163, 37-C11 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. III. Horizontal-Branch Sequences. *Ben Dorman.* 81, 221, 38-A3 (1992)

Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)

An RR Lyrae Period Shift in Terms of the Fourier Parameter ϕ_{31}. *Christine M. Clement, Michael Jankulak, & Norman R. Simon.* 395, 192, 142-E9 (1992)

Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

Planets in Globular Clusters? *Steinn Sigurdsson.* 399, L95, 201-D5 (1992)

Globular Cluster Formation: The Fossil Record. *Stephen D. Murray & Douglas N. C. Lin.* 400, 265, 212-C3 (1992)

Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

Stellar Encounters Involving Neutron Stars in Globular Cluster Cores. *M. B. Davies, W. Benz, & J. G. Hills.* 401, 246, 224-B1 (1992)

The Galactic Globular Cluster System: Empirical Relationship between Light-to-Mass Ratio and Metallicity. *Filippina Caputo & Renato De Santis.* 401, 260, 224-C1 (1992)

A Novel Mechanism for Creating Double Pulsars. *Steinn Sigurdsson & Lars Hernquist.* 401, L93, 233-C7 (1992)

GALAXY: GLOBULAR CLUSTERS: INDIVIDUAL

Messier Number: M3

The Ultraviolet-bright Stars of Omega Centauri, M3, and M13. *Wayne B. Landsman, Robert W. O'Connell, Jonathan H. Whitney, Ralph C. Bohlin, Robert S. Hill, Stephen P. Maran, Ronald A. Parise, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L21, 144-F9 (1992)

Messier Number: M4

The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

Sodium, Aluminum, and Oxygen Abundance Variations in Giants in the Globular Cluster M4. *Jeremy J. Drake, Verne V. Smith, & Nicholas B. Suntzeff.* 395, L95, 154-A10 (1992)

Messier Number: M13

The Ultraviolet-bright Stars of Omega Centauri, M3, and M13. *Wayne B. Landsman, Robert W. O'Connell, Jonathan H. Whitney, Ralph C. Bohlin, Robert S. Hill, Stephen P. Maran, Ronald A. Parise, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L21, 144-F9 (1992)

Messier Number: M5

The Baade-Wesselink Method Applied to RR Lyrae Variables in the Globular Clusters M5 and M92. *J. G. Cohen.* 400, 528, 216-G11 (1992)

Messier Number: M15

Evolution versus Pulsation along the Horizontal Branch of M15. *Norman R. Simon.* 387, 162, 39-A3 (1992)

Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)

Messier Number: M71

Fokker-Planck Models and Globular Cluster Evolution: The Problem of M71. *G. A. Drukier, G. G. Fahlman, & H. B. Richer.* 386, 106, 25-D7 (1992)

Messier Number: M92

The Baade-Wesselink Method Applied to RR Lyrae Variables in the Globular Clusters M5 and M92. *J. G. Cohen.* 400, 528, 216-G11 (1992)

NGC Number: NGC 288

CCD Photometry in the Globular Cluster NGC 288. I. Blue Stragglers and Main-Sequence Binary Stars. *Michael Bolte.* 82, 145, 51-B7 (1992)

NGC Number: NGC 1904

An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904). *Robert S. Hill, Jesse K. Hill, Wayne B. Landsman, Ralph C. Bohlin, K.-P. Cheng, Paul M. N. Hintzen, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L17, 144-F1 (1992)

NGC Number: NGC 5466

Modeling of the Eclipsing Binaries in the Globular Cluster NGC 5466. *J. Kallrath, E. F. Milone, & C. R. Stagg.* 389, 590, 68-G1 (1992)

NGC Number: NGC 6304

Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J. Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes.* 81, 251, 38-D5 (1992)

NGC Number: NGC 6316

Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J. Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes.* 81, 251, 38-D5 (1992)

NGC Number: NGC 6397

The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

Are There Two Kinds of Blue Stragglers in Globular Clusters? *Charles D. Bailyn.* 392, 519, 108-F9 (1992)

NGC Number: NGC 6624

Dust within Globular Clusters: A Large Bubble in NGC 6624? *Juan C. Forte, Sergio A. Cellone, Mariano Méndez, & E. Irene Vega.* 388, 383, 55-B4 (1992)

Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)

Deep VLA Images of Globular Clusters: NGC 6624. *Helen M. Johnston & Shrinivas R. Kulkarni.* 393, L17, 120-C8 (1992)

NGC Number: NGC 6712

X-Ray Spectrum and Time Variation of X1850−087 in the Globular Cluster NGC 6712. *Shunji Kitamoto, Hiroshi Tsunemi, & Diane Roussel-Dupre.* 391, 220, 88-F7 (1992)

Name: ω Centauri

The Ultraviolet-bright Stars of Omega Centauri, M3, and M13. *Wayne B. Landsman, Robert W. O'Connell, Jonathan H. Whitney, Ralph C. Bohlin, Robert S. Hill, Stephen P. Maran, Ronald A. Parise, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L21, 144-F9 (1992)

Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

Name: Palomar 12

Young Globular Clusters in the Milky Way Galaxy. *D. N. C. Lin & Harvey B. Richer.* 388, L57, 59-C1 (1992)

Name: Ruprecht 106

Young Globular Clusters in the Milky Way Galaxy. *D. N. C. Lin & Harvey B. Richer.* 388, L57, 59-C1 (1992)

Name: 47 Tucanae

Are There Two Kinds of Blue Stragglers in Globular Clusters? *Charles D. Bailyn.* 392, 519, 108-F9 (1992)

Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

GALAXY: HALO

The Orbital Structure of Galactic Halos. *Joanna F. Lees & M. Schwarzschild.* 384, 491, 8-C1 (1992)

Microflare Heating of the Galactic Halo. *John C. Raymond.* 384, 502, 8-D1 (1992)

Constraints on Baryonic Dark Matter in the Galactic Halo and Local Group. *D. Richstone, A. Gould, P. Guhathakurta, & C. Flynn.* 388, 354, 54-F12 (1992)

Young Globular Clusters in the Milky Way Galaxy. *D. N. C. Lin & Harvey B. Richer.* 388, L57, 59-C1 (1992)

On the Galactic Disk and Halo Models of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 389, L13, 66-C1 (1992)

Formation of a Giant Galactic Gaseous Halo: Metal Absorption Lines and High-Velocity Clouds. *Fan Li & Satoru Ikeuchi.* 390, 405, 80-D7 (1992)

Dark Matter and Brown Dwarfs: Prospects for the Direct Detection of a Brown Dwarf Halo. *Ruth A. Daly & Gail C. McLaughlin.* 390, 423, 80-F1 (1992)

A Model of the Galactic Dark Halo. *E. R. Wollman.* 392, 80, 102-A8 (1992)

Extending the Macho Search to $\sim 10^6\ M_\odot$. *Andrew Gould.* 392, 442, 107-G1 (1992)

Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)

Hydrodynamics of the Hot Component of the Galactic Halo. II. Radiative and Dynamical Instabilities. *A. Ferrara & G. Einaudi.* 395, 475, 148-D9 (1992)

Possible Explanations of the Large Angle Fluctuations of the Microwave Background. *F. Hoyle & G. Burbidge.* 399, L9, 200-A1 (1992)

Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

Observations of Highly Ionized Gas in the Galactic Halo. *Kenneth R. Sembach & Blair D. Savage.* 83, 147, 58-G11 (1992)

X-Ray Flashes from M31 Based on Extended Halo Models of Gamma-Ray Bursts. *Hui Li & Edison P. Liang.* 400, L59, 220-D3 (1992)

The Abundance of Boron in Three Halo Stars. *Douglas K. Duncan, David L. Lambert, & Michael Lemke.* 401, 584, 229-G6 (1992)

GALAXY: KINEMATICS AND DYNAMICS

Ambiguities in the Identification of Giant Molecular Cloud Complexes from Longitude-Velocity Diagrams. *David S. Adler & William W. Roberts, Jr.* 384, 95, 2-B12 (1992)

Galactic Structure from the Spacelab Infrared Telescope. III. A Dynamical Model for the Milky Way Bulge. *S. M. Kent.* 387, 181, 39-B12 (1992)

Would a Galactic Bar Destroy the Globular Cluster System? *Kevin Long, Jeremiah P. Ostriker, & Luis Aguilar.* 388, 362, 54-G8 (1992)

Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

Rotation of the Galactic Bulge. *Dante Minniti, Simon D. M. White, Edward W. Olszewski, & John M. Hill.* 393, L47, 127-B5 (1992)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: GENERAL

A Study of the Stellar Population in the Chamaeleon Dark Clouds. *Lisa S. Gauvin & Karen M. Strom.* 385, 217, 14-F1 (1992)

Chemical Composition of Open Clusters. III. Iron and Carbon in F Dwarfs in Coma, Praesepe, and M67. *Eileen D. Friel & Ann Merchant Boesgaard.* 387, 170, 39-A13 (1992)

Setting the Clock of Stellar Models. *G. Bertelli, A. Bressan, & C. Chiosi.* 392, 522, 108-F13 (1992)

Lithium Dilution through Main-Sequence Mass Loss. *Fritz J. Swenson & John Faulkner.* 395, 654, 151-D3 (1992)

First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: INDIVIDUAL

NGC Number: NGC 330

On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

Stellar Evolution in Blue Populous Clusters of the Small Magellanic Cloud and the Problems of Envelope Semiconvection and Convective Core Overshooting. *Richard B. Stothers & Chao-wen Chin.* 390, 136, 75-F6 (1992)

NGC Number: NGC 458

Stellar Evolution in Blue Populous Clusters of the Small Magellanic Cloud and the Problems of Envelope Semiconvection and Convective Core Overshooting. *Richard B. Stothers & Chao-wen Chin.* 390, 136, 75-F6 (1992)

Name: Cygnus OB1

An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

Name: Hyades

MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

Name: Lindsay 11

The Age of the Small Magellanic Cloud Cluster Lindsay 11. *J. R. Mould, J. B. Jensen, & G. S. Da Costa.* 82, 489, 55-E11 (1992)

Name: ρ Ophiuchi

Near-Infrared Observations of Young Stellar Objects in the ρ Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 395, 516, 149-B5 (1992)

Name: Orion

Rotation Periods of T Tauri Stars in the Orion Nebula Cluster: A Bimodal Frequency Distribution. *Joanne M. Attridge & William Herbst.* 398, L61, 188-B1 (1992)

Chemical Evolution of the Orion Association. I. The Oxygen Abundance of Main-Sequence B Stars. *Katia Cunha & David L. Lambert.* 399, 586, 205-B7 (1992)

Name: α Persei

Spectroscopic Binaries in the α Persei Cluster. *Nidia Morrell & Helmut A. Abt.* 393, 666, 124-B1 (1992)

Name: Pleiades

A Near-Infrared Search for Brown Dwarfs in the Pleiades. *D. A. Simons & E. E. Becklin.* 390, 431, 80-F10 (1992)

Name: Sco-Cen Association

A Homogeneous Catalog of New *UBV* and Hβ Photometry of B- and A-Type Stars in and around the Scorpius-Centaurus OB Association. *Robert W. Slawson, Robert J. Hill, & John D. Landstreet.* 82, 117, 50-E9 (1992)

Alphanumeric: N11

Two-Stage Starbursts in the Large Magellanic Cloud: N11 as a Once and Future 30 Doradus. *Nolan R. Walborn & Joel Wm. Parker.* 399, L87, 201-C5 (1992)

GALAXY: STELLAR CONTENT

Local Distribution of Old Neutron Stars. *Zsolt Frei, Xiaolan Huang, & Bohdan Paczyński.* 384, 105, 2-C10 (1992)

Constraints on Baryonic Dark Matter in the Galactic Halo and Local Group. *D. Richstone, A. Gould, P. Guhathakurta, & C. Flynn.* 388, 354, 54-F12 (1992)

On the Galactic Disk and Halo Models of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 389, L13, 66-C1 (1992)

Supernova Rates and the Reddening of Wolf-Rayet Stars. *Sidney van den Bergh.* 390, 133, 75-F1 (1992)

Galactic Gamma-Ray Emission from Radio Pulsars. *M. Bailes & D. A. Kniffen.* 391, 659, 96-C1 (1992)

Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

A Deep Image of the Diffuse Soft X-Ray Background at the Galactic Plane. *Qingde Wang.* 392, 509, 108-E11 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

The Edge of the Galactic Disk. *Annie C. Robin, Michel Crézé, & Vijay Mohan.* 400, L25, 214-D1 (1992)

GALAXY: STRUCTURE

Detection of a Large-Scale Stellar Bar in the Milky Way. *Martin D. Weinberg.* 384, 81, 2-A10 (1992)

A Complete, Multicolor Survey of Absolute Proper Motions to $B \sim 22.5$: Galactic Structure and Kinematics at the North Galactic Pole. *Steven Raymond Majewski.* 78, 87, 2-F11 (1992)

Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

Would a Galactic Bar Destroy the Globular Cluster System? *Kevin Long, Jeremiah P. Ostriker, & Luis Aguilar.* 388, 362, 54-G8 (1992)

Galactic Disks, Infall, and the Global Value of Ω. *G. Tóth & J. P. Ostriker.* 389, 5, 60-B6 (1992)

Local Dark Matter from a Carefully Selected Sample. *John N. Bahcall, Chris Flynn, & Andrew Gould.* 389, 234, 62-G9 (1992)

Walls and Windows in the Molecular Milky Way. *William H. Waller & Lowell E. Tacconi-Garman.* 80, 305, 26-D3 (1992)

Constraints on the Galactic Bulge Using *IRAS* Variable Point Sources. *Martin D. Weinberg.* 392, L67, 113-C10 (1992)

An X-Ray Catalog and Atlas of Galaxies. *G. Fabbiano, D.-W. Kim, & G. Trinchieri.* 80, 531, 31-A11 (1992)

Rotation of the Galactic Bulge. *Dante Minniti, Simon D. M. White, Edward W. Olszewski, & John M. Hill.* 392, L47, 127-B5 (1992)

On the Angular Extent of the Galactic 1.8 MeV Line Emission from Radioactive ^{26}Al. *Martin Varendorff & Volker Schönfelder.* 395, 158, 142-B7 (1992)

Corrugations and Star Formation Activity: The Carina-Sagittarius Arm. *Emilio J. Alfaro, Jesús Cabrera-Caño, & Antonio J. Delgado.* 399, 576, 205-A9 (1992)

The Edge of the Galactic Disk. *Annie C. Robin, Michel Crézé, & Vijay Mohan.* 400, L25, 214-D1 (1992)

A Model of the 8–25 Micron Point Source Infrared Sky. *Richard J. Wainscoat, Martin Cohen, Kevin Volk, Helen J. Walker, & Deborah E. Schwartz.* 83, 111, 58-D11 (1992)

GAMMA RAYS: BURSTS

Multiple Resonant Scattering in the Compton Upscatter Model of Gamma-Ray Bursts. *J. J. Brainerd.* 384, 545, 9-A1 (1992)

Low-Mass X-Ray Binary Evolution and the Origin of Millisecond Pulsars. *Juhan Frank, Andrew R. King, & Jean-Pierre Lasota.* 385, L45, 23-C8 (1992)

Dynamical Model of the Magnetic Field of Neutron Stars. *F. W. Cummings, D. D. Dixon, & P. E. Kaus.* 386, 215, 26-G3 (1992)

Flash Photoionization of Gamma-Ray Burst Environments. *David L. Band & Dieter H. Hartmann.* 386, 299, 28-A5 (1992)

Resonant Compton Cooling and Annihilation Line Production in Gamma-Ray Bursts. *R. D. Preece & A. K. Harding.* 386, 308, 28-B1 (1992)

Femtolensing of Gamma-Ray Bursters. *Andrew Gould.* 386, L5, 29-B5 (1992)

Gamma-Ray Bursts and Radio Pulsar Glitches. *D. Hartmann, K. Hurley, & M. Niel.* 387, 622, 46-D1 (1992)

Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)

On the Cosmological Origin of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 388, L45, 59-A9 (1992)

On the Galactic Disk and Halo Models of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 389, L13, 66-C1 (1992)

Gravitational Lensing, Time Delay, and Gamma-Ray Bursts. *Shude Mao.* 389, L41, 73-B1 (1992)

The Implications of the *Compton (GRO)* Observations for Cosmological Gamma-Ray Bursts. *Tsvi Piran.* 389, L45, 73-B6 (1992)

Gamma-Ray Bursts from Planet-Magnetosphere Systems around Neutron Stars. *Hitoshi Hanami.* 389, L71, 73-D11 (1992)

Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

The Spatial Distribution of Gamma-Ray Bursts from *Pioneer Venus Orbiter*. *K. W. Chuang, R. S. White, R. W. Klebesadel, & J. G. Laros.* 391, 242, 89-A4 (1992)

Using Gamma-Ray Bursts to Detect a Cosmological Density of Compact Objects. *O. M. Blaes & R. L. Webster.* 391, L63, 99-D7 (1992)

Cosmic Gamma-Ray Bursts from Black Hole Tidal Disruption of Stars? *Brandon Carter.* 391, L67, 99-D13 (1992)

Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

Formation of Very Strongly Magnetized Neutron Stars: Implications for Gamma-Ray Bursts. *Robert C. Duncan & Christopher Thompson.* 392, L9, 106-B7 (1992)

Shot Noise in Gamma-Ray Bursts. *B. M. Belli.* 393, 266, 117-D9 (1992)

High-Energy Spectral Breaks in Gamma-Ray Bursts. *Bradley E. Schaefer, Bonnard J. Teegarden, Thomas L. Cline, Gerald J. Fishman, Charles A. Meegan, Robert B. Wilson, William S. Paciesas, Geoffrey N. Pendleton, James L. Matteson, David L. Band, & John P. Lestrade.* 393, L51, 127-B11 (1992)

Statistics of Gamma-Ray Bursts: Homogeneous Spherical Models. *Ira Wasserman.* 394, 565, 136-D2 (1992)

Synchrotron Emission from a Cosmological Jet as a Model of Gamma-Ray Bursts. *J. J. Brainerd.* 394, L33, 139-B1 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

Tidal Heating and Mass Loss in Neutron Star Binaries: Implications for Gamma-Ray Burst Models. *P. Mészáros & M. J. Rees.* 397, 570, 178-A12 (1992)

Are Repeaters Responsible for Gamma-Ray Burst $\langle V/V_{max} \rangle < 0.5$? *R. E. Lingenfelter & J. C. Higdon.* 397, 576, 178-B7 (1992)

Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)

Radiation Transfer in Gamma-Ray Bursts. *B. J. Carrigan & J. I. Katz.* 399, 100, 196-D6 (1992)

Determination of Lens Parameters from Gravitationally Lensed Gamma-Ray Bursts. *Ramesh Narayan & Sylvanie Wallington.* 399, 368, 202-E1 (1992)

On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)

Tidal Interactions of Inspiraling Compact Binaries. *Lars Bildsten & Curt Cutler.* 400, 175, 211-B1 (1992)

X-Ray Flashes from M31 Based on Extended Halo Models of Gamma-Ray Bursts. *Hui Li & Edison P. Liang.* 400, L59, 220-D3 (1992)

On the Use of V/V_{max} for Gamma-Ray Bursts. *David Band.* 400, L63, 220-D10 (1992)

Gamma-Ray Line Afterglow from Burst Environments. *H. S. Fencl, R. N. Boyd, & Dieter Hartmann.* 401, 120, 222-E1 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

Possibility of Unique Detection of Primordial Black Hole Gamma-Ray Bursts. *David B. Cline & Woopyo Hong.* 401, L57, 232-F3 (1992)

GAMMA RAYS: OBSERVATIONS

Detection of High-Energy Gamma Radiation from Quasar 3C 279 by the *EGRET* Telescope on the *Compton Gamma Ray Observatory*. *R. C. Hartman, D. L. Bertsch, C. E. Fichtel, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, H. I. Nel, P. L. Nolan, K. Pinkau, H. Rothermel, E. Schneid, M. Sommer, P. Sreekumar, & D. J. Thompson.* 385, L1, 17-A8 (1992)

Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

HEAO 3 Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)

Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line. *R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, S. Grebenev, R. Kremnev, K. Sukhanov, A. Goldwurm, J. Ballet, B. Cordier, J. Paul, M. Denis, G. Vedrenne, M. Niel, & E. Jourdain.* 389, L75, 73-E1 (1992)

SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line. *A. Goldwurm, J. Ballet, B. Cordier, J. Paul, L. Bouchet, J. P. Roques, D. Barret, P. Mandrou, R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, V. Kovtunenko, R. Kremnev, & K. Sukhanov.* 389, L79, 73-E6 (1992)

Evidence for Time Variability of PeV Energy Flux from Cygnus X-3: Ooty Observations during the Period 1984–1987. *S. C. Tonwar, S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, & R. Srivatsan.* 390, 273, 77-D1 (1992)

Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

Galactic Gamma-Ray Emission from Radio Pulsars. *M. Bailes & D. A. Kniffen.* 391, 659, 96-C1 (1992)

Search for Soft Gamma Repeaters in the *SMM*/HXRBS Data. *C. Kouveliotou, J. P. Norris, K. S. Wood, T. L. Cline, B. R. Dennis, U. D. Desai, & L. E. Orwig.* 392, 179, 103-B9 (1992)

On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

On the Angular Extent of the Galactic 1.8 MeV Line Emission from Radioactive ^{26}Al. *Martin Varendorff & Volker Schönfelder.* 395, 158, 142-B7 (1992)

SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration. *R. K. Sood, L. Waldron, G. K. Rochester, T. J. Sumner, G. Frye, T. Jenkins, R. Staubert, E. Kendziorra, P. Ubertini, & A. Bazzano.* 395, 637, 151-B3 (1992)

A Search for TeV Emission from Cygnus X-3. *K. S. O'Flaherty, M. F. Cawley, D. J. Fegan, R. C. Lamb, M. J. Lang, D. A. Lewis, M. Punch, P. T. Reynolds, G. Vacanti, & T. C. Weekes.* 396, 674, 165-F9 (1992)

Gamma Rays from Pion Decay: Evidence for Long-Term Trappings of Particles in Solar Flares. *Natalie Mandzhavidze & Reuven Ramaty.* 396, L111, 167-F7 (1992)

Search for 100 TeV γ-Ray Emission from the Galactic Disk. *M. Aglietta, B. Alessandro, F. Arneodo, L. Bergamasco, A. Campos Fauth, C. Castagnoli, A. Castellina, C. Cattadori, A. Chiavassa, G. Cini, B. D'Ettorre Piazzoli, W. Fulgione, P. Galeotti, P. L. Ghia, G. Mannocchi, C. Morello, G. Navarra, L. Riccati, O. Saavedra, G. C. Trinchero, P. Vallania, & S. Vernetto.* 397, 148, 169-G4 (1992)

A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A. *S. Gunji, T. Kamae, S. Miyazaki, Y. Sekimoto, T. Takahashi, T. Tamura, M. Tanaka, N. Yamaoka, T. Yamagami, M. Nomachi, H. Murakami, J. Braga, & J. A. Neri.* 397, L83, 181-A8 (1992)

Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment. *G. Cusumano, T. Mineo, B. Sacco, L. Scarsi, G. Gerardi, B. Agrinier, E. Barouch, R. Comte, B. Parlier, J. L. Masnou, E. Massaro, G. Matt, E. Costa, M. Salvati, P. Mandrou, M. Niel, & J. F. Olive.* 398, L103, 194-E1 (1992)

Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A. *J. D. Kurfess, W. N. Johnson, R. L. Kinzer, R. A. Kroeger, M. S. Strickman, J. E. Grove, M. D. Leising, D. D. Clayton,*

D. A. Grabelsky, W. R. Purcell, M. P. Ulmer, R. A. Cameron, & G. V. Jung. 399, L137, 208-B7 (1992)

Observations of the Large Magellanic Cloud in High-Energy Gamma Rays. *P. Sreekumar, D. L. Bertsch, B. L. Dingus, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, P. L. Nolan, K. Pinkau, E. J. Schneid, & D. J. Thompson.* 400, L67, 220-E1 (1992)

The Radio Counterpart of the Hard X-Ray Source GRS 1758−258. *L. F. Rodríguez, I. F. Mirabel, & J. Martí.* 401, L15, 227-C1 (1992)

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*. *P. F. Michelson, D. L. Bertsch, J. Chiang, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, C. von Montigny, P. L. Nolan, K. Pinkau, H. Rothermel, E. Schneid, M. Sommer, P. Sreekumar, & D. J. Thompson.* 401, 724, 231-E1 (1992)

Detection of High-Energy Gamma-Ray Emission from the BL Lacertae Object Markarian 421 by the Egret Telescope on the *Compton Observatory*. *Y. C. Lin, D. L. Bertsch, J. Chiang, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, P. L. Nolan, K. Pinkau, E. Schneid, P. Sreekumar, & D. J. Thompson.* 401, L61, 232-F9 (1992)

GAMMA RAYS: THEORY

The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

π^0-Decay Gamma-Ray Emission from Winds of Massive Stars. *Richard L. White & Wan Chen.* 387, L81, 48-D6 (1992)

Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)

On the 440 keV Line in the Crab Nebula Pulsar. *W. Bednarek, O. Cremonesi, & A. Treves.* 390, 489, 81-D5 (1992)

Gamma-Ray Deposition and Nonthermal Excitation in Supernovae. *Cecilia Kozma & Claes Fransson.* 390, 602, 82-G1 (1992)

TeV Gamma Rays from 3C 279: A Possible Probe of Origin and Intergalactic Infrared Radiation Fields. *F. W. Stecker, O. C. De Jager, & M. H. Salamon.* 390, L49, 84-D7 (1992)

The Collapse of White Dwarfs to Neutron Stars. *S. E. Woosley & E. Baron.* 391, 228, 88-G1 (1992)

On the Origin of Variable 511 keV Line Emission from the Galactic Center Region. *R. Ramaty, M. Leventhal, K. W. Chan, & R. E. Lingenfelter.* 392, L63, 113-C5 (1992)

The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

The Expected High-Energy to Ultra–High-Energy Gamma-Ray Spectrum of the Crab Nebula. *O. C. De Jager & A. K. Harding.* 396, 161, 157-B6 (1992)

Diffuse 0.511 MeV Line Emission and the Distribution of Positron Annihilation in the Galaxy. *J. G. Skibo, R. Ramaty, & M. Leventhal.* 397, 135, 169-F3 (1992)

A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

Light Element Nucleosynthesis: A False Clue? *N. Yu. Gnedin & J. P. Ostriker.* 400, 1, 209-A13 (1992)

Gamma Radiation from Pulsar Magnetospheric Gaps. *James Chiang & Roger W. Romani.* 400, 629, 218-C1 (1992)

GRAVITATION

Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

The Coherence Length of the Peculiar Velocity Field in the Universe and the Large-Scale Galaxy Correlation Data. *A. Kashlinsky.* 386, L37, 36-B6 (1992)

Constraints on the Power Spectrum of the Primordial Density Field from Large-Scale Data: Microwave Background and Predictions of Inflation. *A. Kashlinsky.* 387, L1, 43-A8 (1992)

Astrophysical Jets and Theories of Gravitation. *Mario Livio & Nathan Rosen.* 387, 458, 44-D5 (1992)

The Great Wall in the CfA Survey: Its Origin and Imprint on the Microwave Background Radiation. *F. Atrio-Barandela & A. Kashlinsky.* 390, 322, 79-C1 (1992)

PSR 0655+64: An Astrophysical Laboratory for Testing Relativistic Gravity Theories. *Itzhak Goldman.* 390, 494, 81-D11 (1992)

The Rate of Gravitational Galaxy Clustering. *William C. Saslaw.* 391, 423, 93-B4 (1992)

Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

Neutron Stars and Gravitational Scalars. *Helmut W. Zaglauer.* 393, 685, 124-D1 (1992)

Does Faint Galaxy Clustering Contradict Gravitational Instability? *Adrian L. Melott.* 393, L45, 127-B1 (1992)

Is Momentum Conserved? A Test in the Binary System PSR 1913+16. *Clifford M. Will.* 393, L59, 127-C7 (1992)

Weakly Nonlinear Gravitational Instability for Arbitrary Ω. *F. R. Bouchet, R. Juszkiewicz, S. Colombi, & R. Pellat.* 394, L5, 133-B1 (1992)

Cosmological Density Perturbations with Modified Gravity. *Redouane Fakir, Salman Habib, & William Unruh.* 394, 396, 134-C1 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

Dwarf Spheroidal Galaxies and Non-Newtonian Gravity. *Ortwin E. Gerhard & David N. Spergel.* 397, 38, 168-E1 (1992)

Gravitational Lensing and the Variability of *G*. *Lawrence M. Krauss & Martin White.* 397, 357, 175-B4 (1992)

Generalized Newtonian Force Law and Hidden Mass. *Richard L. Liboff.* 397, L71, 180-G1 (1992)

Statistical Mechanics of Violent Relaxation. *David N. Spergel & Lars Hernquist.* 397, L75, 180-G7 (1992)

Excitation of Gravity Waves in Common Envelopes. *Noam Soker.* 399, 185, 197-E3 (1992)

M31: A Unique Laboratory for Gravitational Microlensing. *Arlin P. S. Crotts.* 399, L43, 200-D11 (1992)

HYDRODYNAMICS

The Formation of Coronal Regions in Accretion Disks. *Stephen D. Murray & Douglas N. C. Lin.* 384, 177, 3-B9 (1992)

Spherically Symmetric, Polytropic Flow. *T. Theuns & M. David.* 384, 587, 9-D9 (1992)

Numerical Simulations of Hydrodynamical Jets Crossing a Galactic Halo/Intracluster Medium Interface. *Paul J. Wiita & Michael L. Norman.* 385, 478, 19-B7 (1992)

Toward a Resolution of the Bump and Beat Cepheid Mass Discrepancies. *Paweł Moskalik, J. Robert Buchler, & Ariel Marom.* 385, 685, 21-E13 (1992)

Radiative Shocks and Hydrogen Molecules in Pregalactic Gas: The Effects of Postshock Radiation. *Hyesung Kang & Paul R. Shapiro.* 386, 432, 30-F13 (1992)

Numerical Models for the Collapse and Fragmentation of Centrally Condensed Molecular Cloud Cores. *Elizabeth A. Myhill & William M. Kaula.* 386, 578, 32-E4 (1992)

A Hydrodynamic Approach to Cosmology: Methodology. *Renyue Cen.* 78, 341, 7-B1 (1992)

Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

Postexplosion Hydrodynamics of SN 1987A. *Marc Herant & Willy Benz.* 387, 294, 40-E9 (1992)

Astrophysical Jets and Theories of Gravitation. *Mario Livio & Nathan Rosen.* 387, 458, 44-D5 (1992)

Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

Dynamics of Wind Bubbles and Superbubbles. I. Slow Winds and Fast Winds. *Bon-Chul Koo & Christopher F. McKee.* 388, 93, 50-C1 (1992)

Dynamics of Wind Bubbles and Superbubbles. II. Analytic Theory. *Bon-Chul Koo & Christopher F. McKee.* 388, 103, 50-C12 (1992)

Self-similar Solutions and the Stability of Collapsing Isothermal Filaments. *Shu-ichiro Inutsuka & Shoken M. Miyama.* 388, 392, 55-C1 (1992)

A Test Suite for Magnetohydrodynamical Simulations. *James M. Stone, John F. Hawley, Charles R. Evans, & Michael L. Norman.* 388, 415, 55-E1 (1992)

Convective Instability in Differentially Rotating Disks. *Dongsu Ryu & Jeremy Goodman.* 388, 438, 55-F12 (1992)

The Stability of Accretion Tori. IV. Fission and Fragmentation of Slender, Self-gravitating Annuli. *Dimitris M. Christodoulou & Ramesh Narayan.* 388, 451, 56-A1 (1992)

Dynamics of Ultraharmonic Resonances in Spiral Galaxies. *Paweł Artymowicz & Stephen H. Lubow.* 389, 129, 61-F1 (1992)

On the Interior Structure of Contact Binaries and the Light-Curve Paradox. *Jean-Louis Tassoul.* 389, 375, 64-E9 (1992)

Three-dimensional Hydrodynamical Simulations of Colliding Stars. III. Collisions and Tidal Captures of Unequal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 389, 546, 68-C8 (1992)

Cooling and the Longevity of Polar Rings. *Neal Katz & Hans-Walter Rix.* 389, L55, 73-C3 (1992)

Downflows and Entropy Gradient Reversal in Deep Convection. *Kwing L. Chan & Detlef Gigas.* 389, L87, 73-F3 (1992)

Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

The Three-dimensional Interaction of a Supernova Remnant with an Interstellar Cloud. *James M. Stone & Michael L. Norman.* 390, L17, 78-C11 (1992)

Postglitch Behavior of the Crab Pulsar: Evidence for External Torque Variations. *Bennett Link, Richard I. Epstein, & Gordon Baym.* 390, L21, 78-D5 (1992)

Modeling Structures of Knots in Jet Flows with the Burgers Equation. *Lev Kofman & A. C. Raga.* 390, 359, 79-F5 (1992)

Swing Amplification of Nonaxisymmetric Perturbations in Stars and Gas in a Sheared Galactic Disk. *Chanda J. Jog.* 390, 378, 80-B1 (1992)

Formation of a Giant Galactic Gaseous Halo: Metal Absorption Lines and High-Velocity Clouds. *Fan Li & Satoru Ikeuchi.* 390, 405, 80-D7 (1992)

Spiral Shocks and Subday Variability in SS 433. *Sandip K. Chakrabarti & T. Matsuda.* 390, 639, 83-C1 (1992)

Collision and Tidal Interaction between Planetesimals. *Sei-ichiro Watanabe & Shoken M. Miyama.* 391, 318, 89-G11 (1992)

Dissipational Galaxy Formation. II. Effects of Star Formation. *Neal Katz.* 391, 502, 94-B7 (1992)

Application of the Phase-Integral Method to the Trapping of Acoustic Waves in a Gravitating Fluid. I. Planar Polytrope and Turning-Point Behavior. *Gary H. Price.* 391, 845, 98-D10 (1992)

Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)

Dynamics of Fronts in Thermally Bistable Fluids. *Christian Elphick, Oded Regev, & Nir Shaviv.* 392, 106, 102-C9 (1992)

Hydrodynamic Instabilities in Supernova Remnants: Self-similar Driven Waves. *Roger A. Chevalier, John M. Blondin, & Robert T. Emmering.* 392, 118, 102-D9 (1992)

The Evolution of Cocoons Surrounding Light, Extragalactic Jets. *Denis F. Cioffi & John M. Blondin.* 392, 458, 108-A7 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. I. The Hydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 753, 33-G3 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. II. The Magnetohydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 791, 34-C5 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. III. The Radiation Hydrodynamic Algorithms and Tests. *James M. Stone, Dimitri Mihalas, & Michael L. Norman.* 80, 819, 34-E11 (1992)

A Hydrodynamic Treatment of the Cold Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah Ostriker.* 393, 22, 114-C12 (1992)

Gauge-invariant Cosmological Perturbations in Two Gravitationally Coupled Perfect Fluids. *W. Zimdahl.* 393, 471, 121-F9 (1992)

Shock Breakout in SN 1987A. *Lisa Ensman & Adam Burrows.* 393, 742, 125-A10 (1992)

Supersonic Infall and Causality in Accretion Disk Boundary Layers. *Robert Popham & Ramesh Narayan.* 394, 255, 131-B10 (1992)

A Flux-limited Model of Particle Diffusion and Viscosity. *Ramesh Narayan.* 394, 261, 131-C3 (1992)

Thermonuclear Runaways in Nova Outbursts. *Anurag Shankar, David Arnett, & Bruce A. Fryxell.* 394, L13, 133-C1 (1992)

Bow Shock Models for the Velocity Structure of Ultracompact H II Regions. *Dave Van Buren & Mordecai-Mark Mac Low.* 394, 534, 136-A7 (1992)

Statistics of the Cosmic Mach Number from Numerical Simulations of a Cold Dark Matter Universe. *Yasushi Suto, Renyue Cen, & Jeremiah P. Ostriker.* 395, 1, 140-B1 (1992)

Cosmological Perturbations and the Physical Meaning of Gauge-invariant Variables. *Marco Bruni, Peter K. S. Dunsby, & George F. R. Ellis.* 395, 34, 140-E7 (1992)

Covariant Perturbations in a Multifluid Cosmological Medium. *Peter K. S. Dunsby, Marco Bruni, & George F. R. Ellis.* 395, 54, 140-G1 (1992)

Dynamical Evolution of Highly Inclined Rings. *Dimitris M. Christodoulou, Neal Katz, Hans-Walter Rix, & Asao Habe.* 395, 113, 141-E1 (1992)

A Comparative Study of Synchronization and Circularization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 395, 259, 143-D1 (1992)

Hydrodynamics of the Hot Component of the Galactic Halo. II. Radiative and Dynamical Instabilities. *A. Ferrara & G. Einaudi.* 395, 475, 148-D9 (1992)

On the Efficiency of Ekman Pumping for Synchronization in Close Binaries. *Monique Tassoul & Jean-Louis Tassoul.* 395, 604, 150-E5 (1992)

Postcollapse Hydrodynamics of SN 1987A: Two-dimensional Simulations of the Early Evolution. *Marc Herant, Willy Benz, & Stirling Colgate.* 395, 642, 151-B13 (1992)

Cosmic-Ray–modified Supernova Remnant Shocks. *T. W. Jones & Hyesung Kang.* 396, 575, 164-E9 (1992)

Propagation of Sound and Thermal Waves in a Plasma with Solar Abundances. *Miguel H. Ibáñez S., & Néstor M. Sánchez D.* 396, 717, 166-C1 (1992)

Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)

Non-LTE Radiating Acoustic Shocks and Ca II K2V Bright Points. *Mats Carlsson & Robert F. Stein.* 397, L59, 173-G11 (1992)

Two-dimensional Viscous Accretion Disk Models. I. On Meridional Circulations in Radiative Regions. *W. Kley & D. N. C. Lin.* 397, 600, 178-D13 (1992)

On the Thermal Structure and Stability of Configurations with Heat Diffusion and a Gain-Loss Function. I. General Results. *Miguel H. Ibáñez S., Antonio Parravano, & César A. Mendoza B.* 398, 177, 184-B1 (1992)

An Off-Center Point Explosion in a Radially Stratified Medium: Kompaneets Approximation. *D. G. Korycansky.* 398, 184, 184-B9 (1992)

Flux-limited Diffusion in Hydrodynamics. *J. Cooperstein & E. Baron.* 398, 531, 190-F11 (1992)

Growth and Decay of Disturbances in Stratified Shear Flow in a Rotating Frame. *D. G. Korycansky.* 399, 176, 197-D3 (1992)

A Comparison of Models for Supernova Remnants Including Cosmic Rays. *Hyesung Kang & L. O'C. Drury.* 399, 182, 197-D11 (1992)

Near-resonant Excitation and Propagation of Eccentric Density Waves by External Forcing. *Eve C. Ostriker, Frank H. Shu, & Fred C. Adams.* 399, 192, 197-E13 (1992)

A Three-dimensional Hydrodynamic Treatment of the Hot Dark Matter Cosmological Scenario. *Renyue Cen & Jeremiah P. Ostriker.* 399, 331, 202-B1 (1992)

Pressure-confined Lyα Clouds: Simulation Results versus Observations. *Gerard M. Williger & Arif Babul.* 399, 385, 202-G1 (1992)

On the Virial Theorem for Turbulent Molecular Clouds. *Christopher F. McKee & Ellen G. Zweibel.* 399, 551, 204-F7 (1992)

Galaxies and Gas in a Cold Dark Matter Universe. *Neal Katz, Lars Hernquist, & David H. Weinberg.* 399, L109, 207-F1 (1992)

Galaxy Formation and Physical Bias. *Renyue Cen & Jeremiah P. Ostriker.* 399, L113, 207-F7 (1992)

Shock Wave Emergence at the Stellar Surface and the Subsequent Gas Expansion into a Vacuum: The Sphericity Involvement. *Ya. M. Kazhdan & Marina Murzina.* 400, 192, 211-C9 (1992)

Dynamics of Kepler's Supernova Remnant. *Kazimierz J. Borkowski, John M. Blondin, & Craig L. Sarazin.* 400, 222, 211-F5 (1992)

Nonlinear Dynamics of a Three-dimensional Jet. *Philip E. Hardee & David A. Clarke.* 400, L9, 214-B6 (1992)

Starbursts Triggered by Central Overpressure in Interacting Galaxies. *Chanda J. Jog & Mousumi Das.* 400, 476, 216-C1 (1992)

Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)

Radiation-viscous Boundary Layers. *Nahum Arav & Mitchell C. Begelman.* 401, 125, 222-E7 (1992)

The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

Hydrodynamical Evolution of Coalescing Binary Neutron Stars. *Frederic A. Rasio & Stuart L. Shapiro.* 401, 226, 223-G9 (1992)

Stellar Encounters Involving Neutron Stars in Globular Cluster Cores. *M. B. Davies, W. Benz, & J. G. Hills.* 401, 246, 224-B1 (1992)

Fragmentation of Elongated Cylindrical Clouds. V. Dependence of Mass Ratios on Initial Conditions. *Ian Bonnell & Pierre Bastien.* 401, 654, 230-F1 (1992)

Protostellar Hydrodynamics: Constructing and Testing a Spatially and Temporally Second-Order–accurate Method. I. Spherical Coordinates. *Alan P. Boss & Elizabeth A. Myhill.* 83, 311, 62-B13 (1992)

INFRARED: GALAXIES

A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

Origin of Far-Infrared Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri & Yoshiaki Taniguchi.* 386, 68, 25-A1 (1992)

A Triggering Mechanism for Enhanced Star Formation in Colliding Galaxies. *Chanda J. Jog & P. M. Solomon.* 387, 152, 38-G6 (1992)

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

X-Ray Properties of Bright Far-Infrared Galaxies. *L. P. David, C. Jones, & W. Forman.* 388, 82, 50-B4 (1992)

The Density Evolution of *IRAS* Galaxies. *Karl B. Fisher, Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 389, 188, 62-C11 (1992)

Near-Infrared Spectra and Classification Diagnostics of Seyfert Galaxies. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 196, 62-D7 (1992)

Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)

Far-Infrared Luminosity Functions of Normal Galaxies. *Takashi Isobe & Eric D. Feigelson.* 79, 197, 16-F3 (1992)

A Near-Infrared Imaging Survey of Interacting Galaxies: The Small Angular-Size Arp Systems. *Howard A. Bushouse & S. Adam Stanford.* 79, 213, 16-G11 (1992)

Star Formation and the Distribution of H I and Infrared Emission in M51. *Richard J. Rand, Shrinivas R. Kulkarni, & W. Rice.* 390, 66, 74-G9 (1992)

Ultraluminous *IRAS* Galaxies: Formation of Elliptical Galaxies by Merger-induced Dissipative Collapse. *John Kormendy & David B. Sanders.* 390, L53, 84-E1 (1992)

The Infrared Properties of Quasars and Radio Galaxies: Testing the Unification Schemes. *Timothy M. Heckman, Kenneth C. Chambers, & Marc Postman.* 391, 39, 86-E3 (1992)

Far-Infrared Observations of NGC 4945 and the Circinus Galaxy. *S. K. Ghosh, R. S. Bisht, K. V. K. Iyengar, T. N. Rengarajan, S. N. Tandon, & R. P. Verma.* 391, 111, 87-D1 (1992)

The Unusual *K*-Band Characteristics of the Gravitational Lens System MG 1131+0456. *James Annis.* 391, L17, 92-A7 (1992)

Lyα Emission from Cooling Flows and Measures of the Dust Content of Rich Clusters of Galaxies. *Esther M. Hu.* 391, 608, 95-E7 (1992)

The Relation of Dust and Atomic Gas Properties of Galaxies. *John G. Spitzak & Stephen E. Schneider.* 393, 126, 115-F1 (1992)

Near-Infrared Images of the Nuclear Region of NGC 5128. *Paula C. Turner, William J. Forrest, Judith L. Pipher, & Mark A. Shure.* 393, 648, 123-G7 (1992)

Higher Order Correlations of *IRAS* Galaxies. *Avery Meiksin, Istvan Szapudi, & Alexander Szalay.* 394, 87, 129-B6 (1992)

The Structure of NGC 4565 at 100, 160, and 200 Microns: Continuum Dust Emission in a Quiescent Sb Galaxy. *G. Engargiola & D. A. Harper.* 394, 104, 129-C13 (1992)

A 2.18 to 2.28 Micron Study of the Stellar Population in the Nucleus of M82. *Niall I. Gaffney & Dan F. Lester.* 394, 139, 129-F9 (1992)

Radio and Infrared Emission from Markarian Starburst Galaxies. *Peter C. Stine.* 81, 49, 35-F9 (1992)

Near-Infrared Broad-Line Profiles in Low-Redshift QSOs. *Keith L. Thompson.* 395, 403, 147-C13 (1992)

High-Resolution 12.4 Micron Images of the Starburst Region in M82. *C. M. Telesco & D. Y. Gezari.* 395, 461, 148-B11 (1992)

Infrared Emission in Seyfert 2 Galaxies: Reprocessed Radiation from a Dusty Torus? *Thaisa Storchi-Bergmann, John S. Mulchaey, & Andrew S. Wilson.* 395, L73, 153-F12 (1992)

On the Use of Far-Infrared Luminosity as a Star Formation Indicator in Galaxies. *Marc Sauvage & Trinh X. Thuan.* 396, L69, 167-A9 (1992)

The He I λ2.06 Microns/Brγ Ratio in Starburst Galaxies—An Objective Constraint on the Upper Mass Limit to the Initial Mass Function. *René Doyon, P. J. Puxley, & R. D. Joseph.* 397, 117, 169-D9 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

Aperture Synthesis CO (J = 3–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

Molecular Gas Distribution in a Protogalaxy Candidate IRAS F10214+4724: A Dense Compact Nucleus and Non-detected Extra Components. *Kazushi Sakamoto, Sumio Ishizuki, Ryohei Kawabe, & Masato Ishiguro.* 397, L27, 173-D4 (1992)

A Redshift Survey of *IRAS* Galaxies. V. The Acceleration on the Local Group. *Michael A. Strauss, Amos Yahil, Marc Davis, John P. Huchra, & Karl Fisher.* 397, 395, 175-E11 (1992)

The Optical Properties of IR-selected and Mg II Broad Absorption Line Quasars. *Todd A. Boroson & Karie A. Meyers.* 397, 442, 176-B13 (1992)

The Determination of Dust Mass in Galaxies. *John Kwan & Shuding Xie.* 398, 105, 183-C7 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

The Compactness of Far-Infrared Bright Galaxies. *Zhong Wang & George Helou.* 398, L33, 187-E7 (1992)

Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)

Infrared Fine-Structure Line Diagnostics of Shrouded Active Galactic Nuclei. *G. Mark Voit.* 399, 495, 204-B1 (1992)

Infrared Line Diagnostics of Active Galactic Nuclei. *Luigi Spinoglio & Matthew A. Malkan.* 399, 504, 204-B11 (1992)

A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

Dust Reverberation: A Model for the Infrared Variations of Fairall 9. *Richard Barvainis.* 400, 502, 216-E5 (1992)

New Results on the Radio–Far-Infrared Relation for Galaxies. *Rob Price & Nebojsa Duric.* 401, 81, 222-A11 (1992)

Infrared Lines from Active Galactic Nuclei: A Theoretical Approach. *Marcella Contini & Sueli M. Viegas.* 401, 481, 228-F3 (1992)

12 and 20 Micron Imaging of the Starburst Galaxy NGC 253. *R. K. Piña, B. Jones, R. C. Puetter, & W. A. Stein.* 401, L75, 233-A5 (1992)

INFRARED: GENERAL

The Inverse Planckian Transform and Temperature Spectra. *Luis Salas.* 385, 288, 15-D12 (1992)

Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)

Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network. *M. Lloyd-Hart, P. Wizinowich, B. McLeod, D. Wittman, D. Colucci, R. Dekany, D. McCarthy, J. R. P. Angel, & D. Sandler.* 390, L41, 78-F8 (1992)

TeV Gamma Rays from 3C 279: A Possible Probe of Origin and Intergalactic Infrared Radiation Fields. *F. W. Stecker, O. C. De Jager, & M. H. Salamon.* 390, L49, 84-D7 (1992)

Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

The Optical Emission-Line Background and Accompanying Emissions at Ultraviolet, Infrared, and Millimeter Wavelengths. *R. J. Reynolds.* 392, L35, 106-E1 (1992)

Near-Infrared Observations of AFGL 618. II. The Atomic Spectrum. *Douglas M. Kelly, William B. Latter, & G. H. Rieke.* 395, 174, 142-D1 (1992)

Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)

Mid-Infrared Imaging of Orion BN/KL: Astrometry of IRc2 and the SiO Maser. *Daniel Y. Gezari.* 396, L43, 160-G8 (1992)

Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

A Model of the 8–25 Micron Point Source Infrared Sky. *Richard J. Wainscoat, Martin Cohen, Kevin Volk, Helen J. Walker, & Deborah E. Schwartz.* 83, 111, 58-D11 (1992)

INFRARED: INTERSTELLAR: CONTINUUM

The Spectra of IC 418 and IC 5117 from 1.5 to 1.75 Microns. *C. Y. Zhang & Sun Kwok.* 385, 255, 15-B1 (1992)

Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

Extended Red Emission from Dust in Planetary Nebulae. *D. G. Furton & A. N. Witt.* 386, 587, 32-F1 (1992)

Galactic Structure from the Spacelab Infrared Telescope. I. 2.4 Micron Map. *S. M. Kent, D. Mink, G. Fazio, D. Koch, G. Melnick, A. Tardiff, & C. Maxson.* 78, 403, 8-A9 (1992)

The Luminosity of the Galactic Center. *J. A. Davidson, M. W. Werner, X. Wu, D. F. Lester, P. M. Harvey, M. Joy, & M. Morris.* 387, 189, 39-C8 (1992)

The Sharpless 187 Gas Complex: A Multifrequency Study. *G. Joncas, D. Durand, & R. S. Roger.* 387, 591, 46-A9 (1992)

Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)

Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89–0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

Near-Infrared Observations of Young Stellar Objects in the ρ Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 395, 516, 149-B5 (1992)

An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

IRAS Observations and the Stellar Content of H II Regions in the Large Magellanic Cloud. *Kathleen DeGioia-Eastwood.* 397, 542, 177-F7 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

Infrared Emission from X-Ray and Optically Emitting Regions in the Cygnus Loop Supernova Remnant. *Richard G. Arendt, Eli Dwek, & David Leisawitz.* 400, 562, 217-D1 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

INFRARED: INTERSTELLAR: LINES

The Molecular Hydrogen Emission around L1551 IRS 5: Shock-Heated Molecular Gas at the Base of the Molecular Outflow. *Takuya Yamashita & Motohide Tamura.* 387, L93, 48-E5 (1992)

Infrared Emission Spectra of Benzene and Naphthalene: Implications for the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *Jerrell D. Brenner & John R. Barker.* 388, L39, 52-D6 (1992)

Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

The High-Excitation Region of NGC 7027. *N. Rowlands, J. R. Houck, T. L. Hayward, & J. W. Miles.* 390, L93, 85-C1 (1992)

The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)

Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

Detection of [Fe II] Emission in the Galactic Center. *D. L. DePoy.* 398, 512, 190-E1 (1992)

^{13}CO and HCO^+ Observations of *IRAS* Sources in L1641. *Hua Chen, Yasuo Fukui, & Ji Yang.* 398, 544, 190-G12 (1992)

Infrared Spectroscopy of Dense Clouds in the C–H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

Mid-Infrared Rotational Line Emission from Interstellar Molecular Hydrogen. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 399, 563, 204-G7 (1992)

INFRARED: SOLAR SYSTEM

Occurrence of Global-Scale Emissions on Jupiter: Proposed Identification of Jovian Dimer H_2 Emission. *L. M. Trafton & J. K. G. Watson.* 385, 320, 15-G8 (1992)

Submillimeter Spectrum of Low-Temperature Hydrogen: The Pure Translational Band of H_2 and the $R(0)$ Line of HD. *E. H. Wishnow, I. Ozier, & H. P. Gush.* 392, L43, 106-F1 (1992)

INFRARED: STARS

Spatial Structure in the 10 Micron Spectrum of HD 44179 (The Red Rectangle). *G. L. Grasdalen, G. C. Sloan, & P. D. LeVan.* 384, L25, 6-D1 (1992)

IRAS 16293–2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

Discovery of Outflows from Young Stellar Objects in Bok Globules. *João Lin Yun & Dan P. Clemens.* 385, L21, 17-C6 (1992)

A Catalog of Co-added *IRAS* Fluxes of Orion Population Stars. *Wm. Bruce Weaver & Gordon Jones.* 78, 239, 4-G7 (1992)

Star Formation in Taurus. I. The *IRAS* Faint Source Survey. *C. A. Beichman, F. Boulanger, & M. Moshir.* 386, 248, 27-C5 (1992)

Gravitational Lensing by a Massive Black Hole at the Galactic Center. *Mark Wardle & Farhad Yusef-Zadeh.* 387, L65, 48-C1 (1992)

The 3 Micron Spectrum of the Classical Be Star β Monocerotis A. *K. Sellgren & R. G. Smith.* 388, 178, 51-B13 (1992)

Velocity Streaming of *IRAS* Main-Sequence Disk Stars and the Episodic Enhancement of Particulate Disks by Interstellar Clouds. *Daniel P. Whitmire, John J. Matese, & Patrick G. Whitman.* 388, 190, 51-D1 (1992)

A Near-Infrared Search for Brown Dwarfs in the Pleiades. *D. A. Simons & E. E. Becklin.* 390, 431, 80-F10 (1992)

A True-Field Magnetogram in a Solar Plage Region. *Douglas Rabin.* 390, L103, 85-D1 (1992)

Candidates for Extreme Carbon Stars. *Kevin Volk, Sun Kwok, & Philip P. Langill.* 391, 285, 89-D12 (1992)

Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

Interstellar Polarization from 3 to 5 Microns in Reddened Stars. *P. G. Martin, A. J. Adamson, D. C. B. Whittet, J. H. Hough, J. A. Bailey, S.-H. Kim, S. Sato, M. Tamura, & T. Yamashita.* 392, 691, 110-G3 (1992)

8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)

Constraints on the Galactic Bulge Using *IRAS* Variable Point Sources. *Martin D. Weinberg.* 392, L67, 113-C10 (1992)

The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)

Global Star Formation in the L1630 Molecular Cloud. *Elizabeth A. Lada.* 393, L25, 120-D7 (1992)

Measurement of CO Overtone Line Profiles in SVS 13. *John S. Carr & Alan T. Tokunaga.* 393, L67, 127-D7 (1992)

Emission-Line Studies of Young Stars. III. Correlations with the Infrared Excess. *Fred Hamann & S. E. Persson.* 394, 628, 137-C5 (1992)

The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)

OH/IR Star Color Mimics. *B. M. Lewis.* 396, 251, 158-B13 (1992)

Newly Identified Main-Sequence A Stars with Circumstellar Dust. *K.-P. Cheng, F. C. Bruhweiler, Y. Kondo, & C. A. Grady.* 396, L83, 167-C1 (1992)

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

The Near-Infrared [Fe II] Lines of MWC 922. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 398, 278, 185-C1 (1992)

8–13 Micron Spectroscopy of Nova Herculis 1991. *David K. Lynch, John A. Hackwell, & Ray W. Russell.* 398, 632, 192-A5 (1992)

Multiple Jets from the Young Star IRAS 21334+5039. *Howard A. Smith & Jacqueline Fischer.* 398, L99, 194-D1 (1992)

Nonequilibrium Iron Oxide Formation in Some Low-Mass Post–Asymptotic Giant Branch Stars. *Frans J. M. Rietmeijer.* 400, L39, 214-E6 (1992)

Another Neon Nova: Early Infrared Photometry and Spectroscopy of Nova Cygni 1992. *T. L. Hayward, R. D. Gehrz, J. W. Miles, & J. R. Houck.* 401, L101, 233-D5 (1992)

INSTABILITIES

Self-Organization of Cosmic Radiation Pressure Instability. II. One-dimensional Simulations. *Craig J. Hogan & Jorden Woods.* 384, 111, 2-D4 (1992)

Acoustic Instability in Cosmic-Ray Mediated Shocks. *Hyesung Kang, T. W. Jones, & Dongsu Ryu.* 385, 193, 14-D1 (1992)

Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

Magnetic Interchange Instability of Accretion Disks. *M. Kaisig, T. Tajima, & R. V. E. Lovelace.* 386, 83, 25-B7 (1992)

Resonance Line Radiation Instability in Fully Ionized Plasmas. *William G. Mathews.* 386, 90, 25-C1 (1992)

Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

Inhibition of Electron Thermal Conduction by Electromagnetic Instabilities. *Amir Levinson & David Eichler.* 387, 212, 39-E5 (1992)

On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)

Asymmetric Morphology of the Propagating Jet. II. The Effect of Atmospheric Gradients. *Philip E. Hardee, Raymond E. White III, Michael L. Norman, Michael A. Cooper, & David A. Clarke.* 387, 460, 44-D8 (1992)

Radiative Instabilities and 1000 Second Fluctuations in Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 387, L73, 48-C10 (1992)

Convective Instability in Differentially Rotating Disks. *Dongsu Ryu & Jeremy Goodman.* 388, 438, 55-F12 (1992)

The Stability of Accretion Tori. IV. Fission and Fragmentation of Slender, Self-gravitating Annuli. *Dimitris M. Christodoulou & Ramesh Narayan.* 388, 451, 56-A1 (1992)

Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

Swing Amplification of Nonaxisymmetric Perturbations in Stars and Gas in a Sheared Galactic Disk. *Chanda J. Jog.* 390, 378, 80-B1 (1992)

Hydrodynamic Instabilities in Supernova Remnants: Self-similar Driven Waves. *Roger A. Chevalier, John M. Blondin, & Robert T. Emmering.* 392, 118, 102-D9 (1992)

Initiation of Bipolar Flows by Magnetic Field Twisting in Protostellar Nebulae. *William I. Newman, Alice L. Newman, & Richard V. E. Lovelace.* 392, 622, 110-A1 (1992)

Is the Oort A-Value a Universal Growth Rate Limit for Accretion Disk Shear Instabilities? *Steven A. Balbus & John F. Hawley.* 392, 662, 110-D12 (1992)

Superhump Timing in SU Ursae Majoris Systems: Implications of the Data for the Precessing Disk Model. *Lawrence A. Molnar & Henry A. Kobulnicky.* 392, 678, 110-F3 (1992)

Swinging Spiral Waves and Alfvén Turbulence in Accretion Disks. *M. Tagger, R. Pellat, & F. V. Coroniti.* 393, 708, 124-F1 (1992)

Giant Molecular Cloud Formation through the Parker Instability in a Skewed Magnetic Field. *Tomoyuki Hanawa, Ryoji Matsumoto, & Kazunari Shibata.* 393, L71, 127-E1 (1992)

The Stability of QSO/AGN Broad Emission Line Clouds. *I. S. Krinsky & R. C. Puetter.* 394, 472, 135-C1 (1992)

Hydrodynamics of the Hot Component of the Galactic Halo. II. Radiative and Dynamical Instabilities. *A. Ferrara & G. Einaudi.* 395, 475, 148-D9 (1992)

Dynamical Stability of Two-dimensional Accretion Flows: An Analytic Study. *Omri Gat & Mario Livio.* 396, 542, 164-C1 (1992)

An Examination of the $m = 1$ Instability in a Low-Mass Protoplanetary Disk. *Hyerim Noh, Ethan T. Vishniac, & William D. Cochran.* 397, 347, 172-B11 (1992)

On the Thermal Structure and Stability of Configurations with Heat Diffusion and a Gain-Loss Function. I. General Results. *Miguel H. Ibáñez S., Antonio Parravano, & César A. Mendoza B.* 398, 177, 184-B1 (1992)

Tidally Driven Inclination Instability in Keplerian Disks. *Stephen H. Lubow.* 398, 525, 190-F3 (1992)

Local Magnetohydrodynamic Instabilities and the Wave-driven Dynamo in Accretion Disks. *Ethan T. Vishniac & Patrick Diamond.* 398, 561, 191-B5 (1992)

Growth and Decay of Disturbances in Stratified Shear Flow in a Rotating Frame. *D. G. Korycansky.* 399, 176, 197-D3 (1992)

The Effect of Line Tying on Parker's Instability. *Ellen G. Zweibel & David L. Bruhwiler.* 399, 318, 199-C11 (1992)

Spatial Stability of the Magnetized Slab Jet. *Philip E. Hardee, Michael A. Cooper, Michael L. Norman, & James M. Stone.* 399, 478, 203-G11 (1992)

Band Splitting in Solar Type II Radio Bursts. *R. A. Treumann & J. LaBelle.* 399, L167, 208-E7 (1992)

Rapid Time Variations and Radiative Instabilities of Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 400, 351, 213-C7 (1992)

Nonlinear Dynamics of a Three-dimensional Jet. *Philip E. Hardee & David A. Clarke.* 400, L9, 214-B6 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. III. Long-Term Evolution in a Shearing Sheet. *John F. Hawley & Steven A. Balbus.* 400, 595, 217-F12 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. IV. Nonaxisymmetric Perturbations. *Steven A. Balbus & John F. Hawley.* 400, 610, 218-A1 (1992)

INSTRUMENTATION: DETECTORS

A Rotating Tomographic Imager for Solar Extreme-Ultraviolet/Soft X-Ray Emission. *Joseph M. Davila & W. T. Thompson.* 389, L91, 73-F8 (1992)

COBE Differential Microwave Radiometers: Calibration Techniques. *C. L. Bennett, G. F. Smoot, M. Janssen, S. Gulkis, A. Kogut, G. Hinshaw, C. Backus, M. G. Hauser, J. C. Mather, L. Rokke, L. Tenorio, R. Weiss, D. T. Wilkinson, E. L. Wright, G. De Amici, N. W. Boggess, E. S. Cheng, P. D. Jackson, P. Keegstra, T. Kelsall, R. Kummerer, C. Lineweaver, S. H. Moseley, T. L. Murdock, J. Santana, R. A. Shafer, & R. F. Silverberg.* 391, 466, 93-F7 (1992)

INSTRUMENTATION: INTERFEROMETERS

Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison. *Xiaopei Pan, Michael Shao, M. Mark Colavita, J. Thomas Armstrong, David Mozurkewich, Maddali Vivekanand, Craig S. Denison, Richard S. Simon, & Kenneth J. Johnston.* 384, 624, 9-G9 (1992)

First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network. *M. Lloyd-Hart, P. Wizinowich, B. McLeod, D. Wittman, D. Colucci, R. Dekany, D. McCarthy, J. R. P. Angel, & D. Sandler.* 390, L41, 78-F8 (1992)

Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

INSTRUMENTATION: MISCELLANEOUS

Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

INSTRUMENTATION: PHOTOMETERS

A Bolometric Millimeter-Wave System for Observations of Anisotropy in the Cosmic Microwave Background Radiation on Medium Angular Scales. *M. L. Fischer, D. C. Alsop, E. S. Cheng, A. C. Clapp, D. A. Cottingham, J. O. Gundersen, T. C. Koch, E. Kreysa, P. R. Meinhold, A. E. Lange, P. M. Lubin, P. L. Richards, & G. F. Smoot.* 388, 242, 53-C11 (1992)

INSTRUMENTATION: POLARIMETERS

Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

INSTRUMENTATION: SPECTROGRAPHS

The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission. *Arthur F. Davidsen, Knox S. Long, Samuel T. Durrance, William P. Blair, Charles W. Bowers, Steven J. Conard, Paul D. Feldman, Henry C. Ferguson, Glen H. Fountain, Randy A. Kimble, Gerard A. Kriss, H. Warren Moos, & Kenneth A. Potocki.* 392, 264, 104-C1 (1992)

The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

The Potential for Plasma Diagnostics from Stellar Extreme-Ultraviolet Observations. *U. Feldman, P. Mandelbaum, J. F. Seely, G. A. Doschek, & H. Gursky.* 81, 387, 40-D3 (1992)

Spatial Heterodyne Spectroscopy for the Exploration of Diffuse Interstellar Emission Lines at Far-Ultraviolet Wavelengths. *J. Harlander, R. J. Reynolds, & F. L. Roesler.* 396, 730, 166-D3 (1992)

Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)

INTERPLANETARY MEDIUM

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. I. General Effects of the Changing Neutral Sheet over the Period 1985–1990. *M. S. Potgieter & J. A. Le Roux.* 386, 336, 28-D4 (1992)

Superevents: Their Origin and Propagation through the Heliosphere from 0.3 to 35 AU. *Wolfgang Dröge, Reinhold Müller-Mellin, & Edward W. Cliver.* 387, L97, 48-E10 (1992)

Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE*. *R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

Rocket Observation of the Near-Infrared Spectrum of the Sky. *M. Noda, V. V. Christov, H. Matsuhara, T. Matsumoto, S. Matsuura, K. Noguchi, S. Sato, & H. Murakami.* 391, 456, 93-E9 (1992)

On the Form of the 1987 Hydrogen Spectrum in the Outer Heliosphere. *J. P. L. Reinecke & H. Moraal.* 392, 272, 104-D1 (1992)

Zodiacal Emission. III. Dust near the Asteroid Belt. *William T. Reach.* 392, 289, 104-E7 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. III. General Energy Dependence. *M. S. Potgieter & J. A. Le Roux.* 392, 300, 104-F5 (1992)

On Potential Field Models of the Solar Corona. *Y.-M. Wang & N. R. Sheeley, Jr.* 392, 310, 104-G1 (1992)

Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

Detection of Fundamental and Harmonic Type III Radio Emission and the Associated Langmuir Waves at the Source Region. *M. J. Reiner, R. G. Stone, & J. Fainberg.* 394, 340, 132-B12 (1992)

Propagation Conditions of Relativistic Electrons in the Inner Heliosphere. *M.-B. Kallenrode, G. Wibberenz, & S. Hucke.* 394, 351, 132-C11 (1992)

Combined Infrared and Analytical Electron Microscope Studies of Interplanetary Dust Particles. *J. P. Bradley, H. J. Humecki, & M. S. Germani.* 394, 643, 137-D8 (1992)

Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)

Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. IV. The Role of Heliospheric Neutral Sheet Deformation. *J. A. Le Roux & M. S. Potgieter.* 397, 686, 179-E11 (1992)

ISM: ABUNDANCES

Abundances of the Heavy Elements in the Magellanic Clouds. III. Interpretation of Results. *Stephen C. Russell & Michael A. Dopita.* 384, 508, 8-D9 (1992)

The Millimeter-Wave Spectrum of the CaOH Radical ($X\,^2\Sigma^+$). *L. M. Ziurys, W. L. Barclay, Jr., & M. A. Anderson.* 384, L63, 11-E1 (1992)

The Molecular Core in G34.3+0.2: Millimeter Interferometric Observations of HCO^+, $H^{13}CN$, $HC^{15}N$, and SO. *Patricia Carral & William J. Welch.* 385, 244, 15-A4 (1992)

Production of Li, Be, and B in the Early Galaxy. *Gary Steigman & Terry P. Walker.* 385, L13, 17-B11 (1992)

The Oscillator Strength of the Si II $3s^23p\ ^2P$–$3s3p^2\ ^2D$ Multiplet and the Interstellar Abundance of Silicon. *P. L. Dufton, F. P. Keenan, A. Hibbert, P. C. Ojha, & R. P. Stafford.* 387, 414, 42-B1 (1992)

A Survey of N_2H^+ in Dense Clouds: Implications for Interstellar Nitrogen and Ion-Molecule Chemistry. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 387, 417, 42-B6 (1992)

Detection of SiN in IRC +10216. *B. E. Turner.* 388, L35, 52-D1 (1992)

Faint Emission Lines in the Spectrum of the Orion Nebula and the Abundances of Some of the Rarer Elements. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 305, 63-F11 (1992)

Small Galactic H II Regions. III. Images and Spectrophotometry of the Ionized Gas. *Deidre A. Hunter.* 79, 469, 20-C13 (1992)

The Interstellar Deuterium-to-Hydrogen Ratio: A Reevaluation of Lyman Absorption-Line Measurements. *Peter R. McCullough.* 390, 213, 76-E10 (1992)

On the Chemodynamics of Wolf-Rayet Ring Nebulae: NGC 6888. *César Esteban & José M. Vílchez.* 390, 536, 82-A7 (1992)

The Isotopic Composition of Iron-Group Cosmic Rays. *Richard A. Leske, Barrett Milliken, & Mark E. Wiedenbeck.* 390, L99, 85-C7 (1992)

SO in Starburst Galaxies. *S. J. Petuchowski & C. L. Bennett.* 391, 137, 87-F5 (1992)

The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)

A Source Model for the L134N Molecular Cloud. *Daryl A. Swade & F. Peter Schloerb.* 392, 543, 109-A9 (1992)

A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

The Diffuse Interstellar Cloud toward HD 179406 (20 Aquilae). *Margaret Murray Hanson, Theodore P. Snow, & John H. Black.* 392, 571, 109-C12 (1992)

Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)

Estimates of N_2 Abundances in Dense Molecular Clouds. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 393, 188, 116-D6 (1992)

Anomalously High Apparent Abundances of Singly Ionized Helium in the Galactic H II Region W3A. *P. R. Roelfsema, W. M. Goss, & D. C. V. Mallik.* 394, 188, 130-C13 (1992)

Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)

Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1). *Yasuhiro Hirahara, Hiroko Suzuki, Satoshi Yamamoto, Kentarou Kawaguchi, Norio Kaifu, Masatoshi Ohishi, Shuro Takano, Shin-ichi Ishikawa, & Akimasa Masuda.* 394, 539, 136-B1 (1992)

Observation of Fine Structure in the Cold Phase of the Local Interstellar Medium Using K I Absorption. *Joaquín Trapero, John E. Beckman, Ricardo Génova, & Conal D. McKeith.* 394, 552, 136-C1 (1992)

Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

CNO Abundances and Temperature Fluctuations in the Orion Nebula. *Donald K. Walter, Reginald J. Dufour, & J. Jeff Hester.* 397, 196, 170-D7 (1992)

Fractionation of CO in the Diffuse Clouds toward ζ Ophiuchi. *Yaron Sheffer, S. R. Federman, David L. Lambert, & Jason A. Cardelli.* 397, 482, 176-G3 (1992)

Detection of the Quadrupole Hyperfine Structure in $HCNH^+$. *L. M. Ziurys, A. J. Apponi, & J. T. Yoder.* 397, L123, 181-F6 (1992)

High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

On the Molecular Complexity of the Hot Cores in Orion A: Grain Surface Chemistry as "The Last Refuge of the Scoundrel." *S. B. Charnley, A. G. G. M. Tielens, & T. J. Millar.* 399, L71, 201-A8 (1992)

Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)

Observations of Highly Ionized Gas in the Galactic Halo. *Kenneth R. Sembach & Blair D. Savage.* 83, 147, 58-G11 (1992)

On Determining the Primordial Helium Abundance from the Spectra of H II Galaxies. *Alison Campbell.* 401, 157, 223-A1 (1992)

Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)

Ultraviolet Observations of the Gas Phase Abundances in the Diffuse Clouds toward ζ Ophiuchi at 3.5 Kilometers per Second Resolution. *Blair D. Savage, Jason A. Cardelli, & Ulysses J. Sofia.* 401, 706, 231-C9 (1992)

Interstellar Absorption along the Line of Sight to Theta Carinae Using *Copernicus* Observations. *M. M. Allen, E. B. Jenkins, & T. P. Snow.* 83, 261, 61-D1 (1992)

ISM: ATOMS

Highly Ionized Atoms toward HD 93521. *Lyman Spitzer, Jr., & Edward L. Fitzpatrick.* 391, L41, 92-C11 (1992)

The Optical Emission-Line Background and Accompanying Emissions at Ultraviolet, Infrared, and Millimeter Wavelengths. *R. J. Reynolds.* 392, L35, 106-E1 (1992)

Observation of Fine Structure in the Cold Phase of the Local Interstellar Medium Using K I Absorption. *Joaquín Trapero, John E. Beckman, Ricardo Génova, & Conal D. McKeith.* 394, 552, 136-C1 (1992)

Ultraviolet Observations of the Gas Phase Abundances in the Diffuse Clouds toward ζ Ophiuchi at 3.5 Kilometers per Second Resolution. *Blair D. Savage, Jason A. Cardelli, & Ulysses J. Sofia.* 401, 706, 231-C9 (1992)

ISM: BUBBLES

Dynamics of Wind Bubbles and Superbubbles. I. Slow Winds and Fast Winds. *Bon-Chul Koo & Christopher F. McKee.* 388, 93, 50-C1 (1992)

Dynamics of Wind Bubbles and Superbubbles. II. Analytic Theory. *Bon-Chul Koo & Christopher F. McKee.* 388, 103, 50-C12 (1992)

Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

Effect of the Explosion of Supernovae and Superbubbles on the Galactic Dynamo. *Katia Ferrière.* 391, 188, 88-C13 (1992)

Completing the Evolution of Supernova Remnants and Their Bubbles. *Jonathan D. Slavin & Donald P. Cox.* 392, 131, 102-E9 (1992)

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

Pulsar Nebulae in Supernovae. *Roger A. Chevalier & Claes Fransson.* 395, 540, 149-E3 (1992)

Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

Warm Ionized Gas in the Edge-on Galaxies NGC 4565 and NGC 4631. *Richard J. Rand, Shrinivas R. Kulkarni, & J. Jeff Hester.* 396, 97, 156-C6 (1992)

An Axisymmetric Magnetohydrodynamic Model for the Crab Pulsar Wind Bubble. *Mitchell C. Begelman & Zhi-yun Li.* 397, 187, 170-C11 (1992)

The Galactic Center Wind. *Roger A. Chevalier.* 397, L39, 173-E12 (1992)

An Off-Center Point Explosion in a Radially Stratified Medium: Kompaneets Approximation. *D. G. Korycansky.* 398, 184, 184-B9 (1992)

Formation of the Dark Bays in the Crab Optical Synchrotron Nebula: Is the Crab Pulsar Wind Bubble Interacting with Its Progenitor's Wind? *Zhi-Yun Li & Mitchell C. Begelman.* 400, 186, 211-C1 (1992)

Two-Temperature Models of Old Supernova Remnants with Ion and Electron Thermal Conduction. *Wei Cui & Donald P. Cox.* 401, 206, 223-F1 (1992)

ISM: CLOUDS

Numerical Models for the Collapse and Fragmentation of Centrally Condensed Molecular Cloud Cores. *Elizabeth A. Myhill & William M. Kaula.* 386, 578, 32-E4 (1992)

Self-similar Solutions and the Stability of Collapsing Isothermal Filaments. *Shu-ichiro Inutsuka & Shoken M. Miyama.* 388, 392, 55-C1 (1992)

Primordial Giant Molecular Cloud Clumps Can Be Probed—Optically. *David L. Block, J. E. Dyson, & Claus Madsen.* 390, L13, 78-C1 (1992)

On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. II. Structure, Stability, and Physical Conditions from $C^{18}O$ Observations. *B. E. Turner, Lanping Xu, & L. J Rickard.* 391, 158, 88-A7 (1992)

Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

A Source Model for the L134N Molecular Cloud. *Daryl A. Swade & F. Peter Schloerb.* 392, 543, 109-A9 (1992)

The Diffuse Interstellar Cloud toward HD 179406 (20 Aquilae). *Margaret Murray Hanson, Theodore P. Snow, & John H. Black.* 392, 571, 109-C12 (1992)

Estimates of N_2 Abundances in Dense Molecular Clouds. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 393, 188, 116-D6 (1992)

Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

Surveys of Dense Cores for High-Velocity Gas. *Yuefang Wu, Shudong Zhou, & Neal J. Evans II.* 394, 196, 130-D9 (1992)

In Search of Evidence for Protostellar Collapse: A Systematic Study of Line Formation in Low-Mass Dense Cores. *Shudong Zhou.* 394, 204, 130-E4 (1992)

Star Formation in Protogalactic Clouds. *Douglas N. C. Lin & Stephen D. Murray.* 394, 523, 135-G8 (1992)

Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

Density Structure and Star Formation in Dense Cores with Thermal and Nonthermal Motions. *P. C. Myers & G. A. Fuller.* 396, 631, 165-C1 (1992)

A High-Resolution 21 Centimeter Line Study of Infrared Cirrus. *G. Joncas, F. Boulanger, & P. E. Dewdney.* 397, 165, 170-A10 (1992)

The Unusual Cometary Star-forming Region G110–13. *Sten Odenwald, Jacqueline Fischer, Felix J. Lockman, & Sally Stemwedel.* 397, 174, 170-B9 (1992)

Models of Gas-Grain Chemistry in Dense Interstellar Clouds with Complex Organic Molecules. *Tatsuhiko I. Hasegawa, Eric Herbst, & Chun Ming Leung.* 82, 167, 51-D13 (1992)

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)

On the Molecular Complexity of the Hot Cores in Orion A: Grain Surface Chemistry as "The Last Refuge of the Scoundrel." *S. B. Charnley, A. G. G. M. Tielens, & T. J. Millar.* 399, L71, 201-A8 (1992)

On the Virial Theorem for Turbulent Molecular Clouds. *Christopher F. McKee & Ellen G. Zweibel.* 399, 551, 204-F7 (1992)

Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)

Interstellar Cloud Shapes: A Minimum-Hypothesis Account Involving a Purely Gravitational Effect. *Robert C. Fleck, Jr.* 401, 146, 222-G3 (1992)

The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

Photometric and Spectroscopic Analysis of High Galactic Latitude Molecular Clouds. I. Distances and Extinctions of Stars toward 25 Selected Regions. *B. E. Penprase.* 83, 273, 61-E7 (1992)

ISM: COSMIC RAYS

Acoustic Instability in Cosmic-Ray Mediated Shocks. *Hyesung Kang, T. W. Jones, & Dongsu Ryu.* 385, 193, 14-D1 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. I. General Effects of the Changing Neutral Sheet over the Period 1985–1990. *M. S. Potgieter & J. A. Le Roux.* 386, 336, 28-D4 (1992)

Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)

Propagation of Cosmic-Ray Nuclei in a Diffusing Galaxy with Convective Halo and Thin Matter Disk. *W. R. Webber, M. A. Lee, & M. Gupta.* 390, 96, 75-C3 (1992)

Cosmic Rays from the Galactic Center: Path Length Distributions and Galactic Gradient in a Modified Model. *T. Wibig.* 390, 105, 75-D1 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. II. On the Energy Dependence of the Onset of New Modulation in 1987. *J. A. Le Roux & M. S. Potgieter.* 390, 661, 83-E1 (1992)

The Isotopic Composition of Iron-Group Cosmic Rays. *Richard A. Leske, Barrett Milliken, & Mark E. Wiedenbeck.* 390, L99, 85-C7 (1992)

Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

The Isotopic Composition of Cosmic-Ray B, C, N, and O: Evidence for an Overabundance of ^{18}O. *P. S. Gibner, R. A. Mewaldt, S. M. Schindler, E. C. Stone, & W. R. Webber.* 391, L89, 99-G5 (1992)

On the Form of the 1987 Hydrogen Spectrum in the Outer Heliosphere. *J. P. L. Reinecke & H. Moraal.* 392, 272, 104-D1 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. III. General Energy Dependence. *M. S. Potgieter & J. A. Le Roux.* 392, 300, 104-F5 (1992)

Studies of the Low-Energy Galactic Cosmic-Ray Composition near 28 AU at Sunspot Minimum: The Primary-to-Primary Ratios. *W. R. Webber, P. Ferrando, A. Lukasiak, & F. B. McDonald.* 392, L91, 113-F1 (1992)

The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

Cosmic-Ray Secondary Antiprotons: A Closer Look. *Thomas K. Gaisser & Robert K. Schaefer.* 394, 174, 130-B10 (1992)

Viscous and Inertial Effects at Cosmic-Ray Shocks. *J. R. Jokipii & L. L. Williams.* 394, 184, 130-C8 (1992)

Wave Diffraction in Weak Cosmic-Ray–modified Shocks. *G. M. Webb & G. P. Zank.* 396, 549, 164-C9 (1992)

Cosmic-Ray–modified Supernova Remnant Shocks. *T. W. Jones & Hyesung Kang.* 396, 575, 164-E9 (1992)

Search for 100 TeV γ-Ray Emission from the Galactic Disk. *M. Aglietta, B. Alessandro, F. Arneodo, L. Bergamasco, A. Campos Fauth, C. Castagnoli, A. Castellina, C. Cattadori, A. Chiavassa, G. Cini, B. D'Ettorre Piazzoli, W. Fulgione, P. Galeotti, P. L. Ghia, G. Mannocchi, C. Morello, G. Navarra, L. Riccati, O. Saavedra, G. C. Trinchero, P. Vallania, & S. Vernetto.* 397, 148, 169-G4 (1992)

An Estimate of the Local Interstellar Antiproton Spectrum Using Solar Modulation Techniques on the Data. *J. S. Perko.* 397, 153, 169-G10 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. IV. The Role of Heliospheric Neutral Sheet Deformation. *J. A. Le Roux & M. S. Potgieter.* 397, 686, 179-E11 (1992)

On "High Flyers" in Fermi Acceleration. *Lewis Ball, D. B. Melrose, & C. A. Norman.* 398, L65, 188-B7 (1992)

Cosmic Rays from the Galactic Center: Electron and Positron Fluxes in a Modified Model. *Tadeusz Wibig.* 398, 507, 190-D9 (1992)

A Comparison of Models for Supernova Remnants Including Cosmic Rays. *Hyesung Kang & L. O'C. Drury.* 399, 182, 197-D11 (1992)

Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

Electron Acceleration in Tycho's and Kepler's Supernova Remnants: Spectral Evidence of Fermi Shock Acceleration. *Stephen P. Reynolds & Donald C. Ellison.* 399, L75, 201-B1 (1992)

Reaction Rate and Energy-Loss Rate for Photopair Production by Relativistic Nuclei. *Michał J. Chodorowski, Andrzej A. Zdziarski, & Marek Sikora.* 400, 181, 211-B9 (1992)

Magnetohydrodynamic Wave Damping by Cosmic-Ray Viscosity. *Ahmed Boulares & Gregor Morfill.* 400, 622, 218-B6 (1992)

Observations of the Large Magellanic Cloud in High-Energy Gamma Rays. *P. Sreekumar, D. L. Bertsch, B. L. Dingus, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, P. F. Michelson, C. von Montigny, P. L. Nolan, K. Pinkau, E. J. Schneid, & D. J. Thompson.* 400, L67, 220-E1 (1992)

Fast Dynamos, Cosmic Rays, and the Galactic Magnetic Field. *E. N. Parker.* 401, 137, 222-F7 (1992)

ISM: DUST, EXTINCTION

An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

Temperature Dependence of Infrared Bands Produced by Polycyclic Aromatic Hydrocarbons. *L. Colangeli, V. Mennella, & E. Bussoletti.* 385, 577, 20-C10 (1992)

Infrared Observations and Thermal Models of the β Pictoris Disk. *D. E. Backman, F. C. Gillett, & F. C. Witteborn.* 385, 670, 21-D8 (1992)

The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet. *Geoffrey C. Clayton, Christopher M. Anderson, Antonio Mario Magalhães, Arthur D. Code, Kenneth H. Nordsieck, Marilyn R. Meade, Michael J. Wolff, Brian Babler, Karen S. Bjorkman, Regina E. Schulte-Ladbeck, MaryJane Taylor, & Barbara A. Whitney.* 385, L53, 23-D7 (1992)

Physical Properties of Neutral Gas in M31 and the Galaxy. *Robert Braun & René A. M. Walterbos.* 386, 120, 25-E10 (1992)

Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

Extended Red Emission from Dust in Planetary Nebulae. *D. G. Furton & A. N. Witt.* 386, 587, 32-F1 (1992)

On Graphite and the Variations in the Ultraviolet Extinction Curve. *Per A. Aannestad.* 386, 627, 33-B5 (1992)

Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

Dust within Globular Clusters: A Large Bubble in NGC 6624? *Juan C. Forte, Sergio A. Cellone, Mariano Méndez, & E. Irene Vega.* 388, 383, 55-B4 (1992)

Mass Loss from OH/IR Stars: Models for the Infrared Emission of Circumstellar Dust Shells. *K. Justtanont & A. G. G. M. Tielens.* 389, 400, 64-G10 (1992)

Quasar Absorption Lines with a Nonzero Cosmological Constant. *Edwin L. Turner & Satoru Ikeuchi.* 389, 478, 67-D7 (1992)

Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89−0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

Extinction in Low-Ionization Broad Absorption Line Quasi-stellar Objects. *David Sprayberry & Craig B. Foltz.* 390, 39, 74-E6 (1992)

The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J Rickard, F. Verter, M. W. Pound, & D. Leisawitz.* 390, 514, 81-F7 (1992)

An Upper Limit on the Cosmic Ultraviolet Background. *Edward L. Wright.* 391, 34, 86-D11 (1992)

Thermal Emission Spectra from Polycyclic Aromatic Hydrocarbon Molecules of Astrophysical Interest. *V. Mennella, L. Colangeli, & E. Bussoletti.* 391, L45, 92-D1 (1992)

Walls and Windows in the Molecular Milky Way. *William H. Waller & Lowell E. Tacconi-Garman.* 80, 305, 26-D3 (1992)

Lyα Emission from Cooling Flows and Measures of the Dust Content of Rich Clusters of Galaxies. *Esther M. Hu.* 391, 608, 95-E7 (1992)

The Internal Extinction in Spiral Galaxies. *Mingsheng Han.* 391, 617, 95-F4 (1992)

Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

Electron Energy Loss Spectra of Polycyclic Aromatic Hydrocarbons. *John W. Keller, M. A. Coplan, & R. Goruganthu.* 391, 872, 98-G1 (1992)

Vacuum Ultraviolet Extinction Measurements on Cosmic Dust Analog Carbon Grains. *L. Colangeli, A. Blanco, S. Fonti, & E. Bussoletti.* 392, 284, 104-E1 (1992)

Zodiacal Emission. III. Dust near the Asteroid Belt. *William T. Reach.* 392, 289, 104-E7 (1992)

Interstellar Polarization from 3 to 5 Microns in Reddened Stars. *P. G. Martin, A. J. Adamson, D. C. B. Whittet, J. H. Hough, J. A. Bailey, S.-H. Kim, S. Sato, M. Tamura, & T. Yamashita.* 392, 691, 110-G3 (1992)

8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)

The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)

SiC Particles from Asymptotic Giant Branch Stars: Mg Burning and the *s*-Process. *Lawrence E. Brown & Donald D. Clayton.* 392, L79, 113-E1 (1992)

The Relation of Dust and Atomic Gas Properties of Galaxies. *John G. Spitzak & Stephen E. Schneider.* 393, 126, 115-F1 (1992)

Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

High-Resolution Images of Dust Emission from Orion-KL. *Melvyn Wright, Goeran Sandell, David J. Wilner, & Richard L. Plambeck.* 393, 225, 117-A1 (1992)

Dust and the Transfer of Stellar Radiation within Galaxies. *Adolf N. Witt, Harley A. Thronson, Jr., & John M. Capuano, Jr.* 393, 611, 123-D7 (1992)

Contribution of Polycyclic Aromatic Hydrocarbon Molecules to the Interstellar Extinction Curve. *C. Joblin, A. Léger, & P. Martin.* 393, L79, 127-F1 (1992)

Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

The Structure of NGC 4565 at 100, 160, and 200 Microns: Continuum Dust Emission in a Quiescent Sb Galaxy. *G. Engargiola & D. A. Harper.* 394, 104, 129-C13 (1992)

Redshift Asymmetry and Color-Velocity Correlation in Nearby Galaxy Groups: Evidence of Dust? *M. Girardi, M. Mezzetti, G. Giuricin, & F. Mardirossian.* 394, 442, 134-G9 (1992)

General Theory of the Purcell-Pennypacker Scattering Approach and Its Extension to Bianisotropic Scatterers. *Akhlesh Lakhtakia.* 394, 494, 135-E1 (1992)

Combined Infrared and Analytical Electron Microscope Studies of Interplanetary Dust Particles. *J. P. Bradley, H. J. Humecki, & M. S. Germani.* 394, 643, 137-D8 (1992)

Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

Interstellar Dust from the Milky Way to the Magellanic Clouds. *Yichuan C. Pei.* 395, 130, 141-G1 (1992)

The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

Near-Infrared Broad-Line Profiles in Low-Redshift QSOs. *Keith L. Thompson.* 395, 403, 147-C13 (1992)

An *IRAS* Survey of Galactic Supernova Remnants. *Jon M. Saken, Robert A. Fesen, & J. Michael Shull.* 81, 715, 45-F9 (1992)

Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

Models of Gas-Grain Chemistry in Dense Interstellar Clouds with Complex Organic Molecules. *Tatsuhiko I. Hasegawa, Eric Herbst, & Chun Ming Leung.* 82, 167, 51-D13 (1992)

An Infrared Supershell Surrounding the Cygnus OB1 Association. *Jon M. Saken, J. Michael Shull, Catharine D. Garmany, Joy Nichols-Bohlin, & Robert A. Fesen.* 397, 537, 177-E10 (1992)

On the Interaction between Dust and Gas in Late-Type Stellar Atmospheres and Winds. *K. B. MacGregor & R. E. Stencel.* 397, 644, 179-A13 (1992)

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

The Determination of Dust Mass in Galaxies. *John Kwan & Shuding Xie.* 398, 105, 183-C7 (1992)

Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

Submillimeter Spectrum and Dust Mass of the Primeval Galaxy IRAS 10214+4724. *D. Downes, S. J. E. Radford, A. Greve, C. Thum, P. M. Solomon, & J. E. Wink.* 398, L25, 187-D7 (1992)

Spectropolarimetry of the 5797 Å Diffuse Interstellar Band. *A. J. Adamson & D. C. B. Whittet.* 398, L69, 188-C1 (1992)

Deviations of Interstellar Extinctions from the Mean R-dependent Extinction Law. *John S. Mathis & Jason A. Cardelli.* 398, 610, 191-F7 (1992)

A Near-Infrared Study of a Homogeneous Sample of Optically Selected Active Galactic Nuclei. II. Analysis of the Results and Interpretation. *L. Danese, V. Zitelli, G. L. Granato, R. Wade, G. De Zotti, & N. Mandolesi.* 399, 38, 195-E8 (1992)

Polarization in the Narrow [O III] Lines in Seyfert 2 Galaxies. *Robert W. Goodrich.* 399, 50, 195-F8 (1992)

The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)

An Efficient Method for the Calculation of Mean Extinction. I. The Analyticity of the Complex Extinction Efficiency of Homogeneous Spheres. *Zhang-fan Xing & J. Mayo Greenberg.* 399, 164, 197-C3 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

Hubble Space Telescope Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

Nonequilibrium Iron Oxide Formation in Some Low-Mass Post–Asymptotic Giant Branch Stars. *Frans J. M. Rietmeijer.* 400, L39, 214-E6 (1992)

Dust Reverberation: A Model for the Infrared Variations of Fairall 9. *Richard Barvainis.* 400, 502, 216-E5 (1992)

Infrared Emission from X-Ray and Optically Emitting Regions in the Cygnus Loop Supernova Remnant. *Richard G. Arendt, Eli Dwek, & David Leisawitz.* 400, 562, 217-D1 (1992)

The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

Infrared Spectra of Obscuring Dust Tori around Active Galactic Nuclei. I. Calculational Method and Basic Trends. *Edward A. Pier & Julian H. Krolik.* 401, 99, 222-C5 (1992)

Far-Infrared Spectral Studies of Phase Changes in Water Ice Induced by Proton Irradiation. *Mala H. Moore & Reggie L. Hudson.* 401, 353, 225-D5 (1992)

The Low Filling Factor of Dust in the Galaxy. *Jayant Murthy, H. J. Walker, & R. C. Henry.* 401, 574, 229-F8 (1992)

ISM: GENERAL

Precision Measurements of Pulsar Dispersion. *J. A. Phillips & A. Wolszczan.* 385, 273, 15-C8 (1992)

The Development of H I Dissociation Zones around New H II Regions. *R. S. Roger & P. E. Dewdney.* 385, 536, 19-G5 (1992)

Physical Properties of Neutral Gas in M31 and the Galaxy. *Robert Braun & René A. M. Walterbos.* 386, 120, 25-E10 (1992)

Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

Inhibition of Electron Thermal Conduction by Electromagnetic Instabilities. *Amir Levinson & David Eichler.* 387, 212, 39-E5 (1992)

Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

Velocity Streaming of *IRAS* Main-Sequence Disk Stars and the Episodic Enhancement of Particulate Disks by Interstellar Clouds. *Daniel P. Whitmire, John J. Matese, & Patrick G. Whitman.* 388, 190, 51-D1 (1992)

The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

Infrared Polarimetry and the Galactic Magnetic Field. II. Improved Models. *Terry Jay Jones, Dimitri Klebe, & John M. Dickey.* 389, 602, 69-A1 (1992)

Detection of a Local High-Velocity Absorption-Line System toward HD 93721. *B. E. Penprase & J. C. Blades.* 391, 276, 89-D1 (1992)

Incorporation of Density Fluctuations into Photoionization Calculations. *Robert E. Williams.* 392, 99, 102-C1 (1992)

Dynamics of Fronts in Thermally Bistable Fluids. *Christian Elphick, Oded Regev, & Nir Shaviv.* 392, 106, 102-C9 (1992)

Long-Term Pulsar Flux Monitoring and Refractive Interstellar Scintillation. *Victoria M. Kaspi & Daniel R. Stinebring.* 392, 530, 108-G8 (1992)

Highly Ionized Gas in the Gum Nebula and Elsewhere: A Comparison of *IUE* and *Copernicus* Satellite Results. *Richard J. Edgar & Blair D. Savage.* 396, 124, 156-F4 (1992)

Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

Resolving the Forbidden-Line Emission Regions of Young Stellar Objects: DD Tauri. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 397, L107, 181-D7 (1992)

CN Rotational Excitation. *E. Palazzi, N. Mandolesi, & Philippe Crane.* 398, 53, 182-F5 (1992)

Normal O Stars in Dense Media Generate LINERs. *Joseph C. Shields.* 399, L27, 200-C1 (1992)

Heating the Warm Ionized Medium. *R. J. Reynolds & D. P. Cox.* 400, L33, 214-D10 (1992)

The Low Filling Factor of Dust in the Galaxy. *Jayant Murthy, H. J. Walker, & R. C. Henry.* 401, 574, 229-F8 (1992)

ISM: H II REGIONS

The Molecular Core in G34.3+0.2: Millimeter Interferometric Observations of HCO^+, $H^{13}CN$, $HC^{15}N$, and SO. *Patricia Carral & William J. Welch.* 385, 244, 15-A4 (1992)

Line-of-Sight Results from H II Region Models. *R. B. Gruenwald & S. M. Viegas.* 78, 153, 3-E7 (1992)

The Molecular Interstellar Medium in Two Giant H II Regions in M33: NGC 604 and NGC 595. *Christine D. Wilson & Nick Scoville.* 385, 512, 19-E5 (1992)

The Development of H I Dissociation Zones around New H II Regions. *R. S. Roger & P. E. Dewdney.* 385, 536, 19-G5 (1992)

The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

A CO Study of Sharpless 171: Evidence for Interaction between the H II Region and Its Neighboring Molecular Cloud. *Ji Yang & Yasuo Fukui.* 386, 618, 33-A8 (1992)

Motion at the Ionization Front in the Orion Nebula: A Kinematic Study of the [O I] Line. *C. R. O'Dell & Zheng Wen.* 387, 229, 39-F10 (1992)

Are the NGC 7538 Formaldehyde Masers Really Unusual? *Preethi Pratap, Lewis E. Snyder, & Wolfgang Batrla.* 387, 241, 40-A1 (1992)

The Sharpless 187 Gas Complex: A Multifrequency Study. *G. Joncas, D. Durand, & R. S. Roger.* 387, 591, 46-A9 (1992)

High Spatial Resolution 1.3 Centimeter Imaging of the NGC 2024 Star-forming Region. *R. A. Gaume, K. J. Johnston, & T. L. Wilson.* 388, 489, 56-D1 (1992)

Dense Clumps of Ionized Gas near π Scorpii, as Revealed by the Fine-Structure Excitation of N II. *Frank Bertoldi & Edward B. Jenkins.* 388, 495, 56-D9 (1992)

Spectroscopy of Emission-Line Nebulae in Powerful Radio Galaxies: Interpretation. *S. A. Baum, T. M. Heckman, & W. van Breugel.* 389, 208, 62-E7 (1992)

Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89−0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

Small Galactic H II Regions. III. Images and Spectrophotometry of the Ionized Gas. *Deidre A. Hunter.* 79, 469, 20-C13 (1992)

Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

The Radial Distribution of Oxygen in Disk Galaxies. *Dennis Zaritsky.* 390, L73, 84-G7 (1992)

CO Emission from the Dwarf Irregular Galaxy NGC 6822. *Christine D. Wilson.* 391, 144, 87-G1 (1992)

Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)

Emission-Line Objects near Quasi-stellar Object Absorbers. III. Clustering and Colors of Moderate-Redshift H II Regions. *Brian Yanny & Donald G. York.* 391, 569, 95-A8 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)

Anomalously High Apparent Abundances of Singly Ionized Helium in the Galactic H II Region W3A. *P. R. Roelfsema, W. M. Goss, & D. C. V. Mallik.* 394, 188, 130-C13 (1992)

Bow Shock Models for the Velocity Structure of Ultracompact H II Regions. *Dave Van Buren & Mordecai-Mark Mac Low.* 394, 534, 136-A7 (1992)

The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81. *Jesse K. Hill, Ralph C. Bohlin, Kwang-Ping Cheng, Paul M. N. Hintzen, Wayne B. Landsman, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L37, 145-B9 (1992)

Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74). *Peter C. Chen, Robert H. Cornett, Morton S. Roberts, Ralph C. Bohlin, Susan G. Neff, Robert W. O'Connell, Ronald A. Parise, Andrew M. Smith, & Theodore P. Stecher.* 395, L41, 145-C5 (1992)

Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

CNO Abundances and Temperature Fluctuations in the Orion Nebula. *Donald K. Walter, Reginald J. Dufour, & J. Jeff Hester.* 397, 196, 170-D7 (1992)

The Oxygen Abundance Gradient in the Barred Spiral Galaxy NGC 4303. *Pierre Martin & Jean-René Roy.* 397, 463, 176-D13 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

IRAS Observations and the Stellar Content of H II Regions in the Large Magellanic Cloud. *Kathleen DeGioia-Eastwood.* 397, 542, 177-F7 (1992)

O-Star Photoionization Models of Liners with Weak [O I] λ6300 Emission. *Alexei V. Filippenko & Roberto Terlevich.* 397, L79, 181-A1 (1992)

High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

Detection of [Fe II] Emission in the Galactic Center. *D. L. DePoy.* 398, 512, 190-E1 (1992)

Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

Infrared Spectroscopy of Dense Clouds in the C–H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

Imaging Spectrophotometry of the Orion Nebula Core. I. Emission-Line Mapping and Physical Conditions. *Richard W. Pogge, J. Michael Owen, & Bruce Atwood.* 399, 147, 197-A9 (1992)

Normal O Stars in Dense Media Generate LINERs. *Joseph C. Shields.* 399, L27, 200-C1 (1992)

Extinction and Scattering in the Orion Nebula: Comparison of Optical and VLA 21 Centimeter Studies. *C. R. O'Dell, Donald K. Walter, & Reginald J. Dufour.* 399, L67, 200-G12 (1992)

Two-Stage Starbursts in the Large Magellanic Cloud: N11 as a Once and Future 30 Doradus. *Nolan R. Walborn & Joel Wm. Parker.* 399, L87, 201-C5 (1992)

Heating the Warm Ionized Medium. *R. J. Reynolds & D. P. Cox.* 400, L33, 214-D10 (1992)

On Determining the Primordial Helium Abundance from the Spectra of H II Galaxies. *Alison Campbell.* 401, 157, 223-A1 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6−0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

ISM: INDIVIDUAL

Messier Number: M17

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

Name: PV Cephei

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

Name: Corona Australis Cloud

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

Name: Crab Nebula

Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

Activity and Radio Spectral Index Variations near the Center of the Crab Nebula. *M. F. Bietenholz & P. P. Kronberg.* 393, 206, 116-F1 (1992)

Ultraviolet Imaging Telescope Observations of the Crab Nebula. *Gregory S. Hennessy, Robert W. O'Connell, Kwang P. Cheng, Ralph C. Bohlin, Nicholas R. Collins, Theodore R. Gull, Paul Hintzen, Joan E. Isensee, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L13, 144-E5 (1992)

The Expected High-Energy to Ultra–High-Energy Gamma-Ray Spectrum of the Crab Nebula. *O. C. De Jager & A. K. Harding.* 396, 161, 157-B6 (1992)

An Axisymmetric Magnetohydrodynamic Model for the Crab Pulsar Wind Bubble. *Mitchell C. Begelman & Zhi-yun Li.* 397, 187, 170-C11 (1992)

The Synchrotron Bays of the Crab Nebula: A Magnetic Structure Associated with a Presupernova Circumstellar Disk. *Robert A. Fesen, Crystal L. Martin, & J. Michael Shull.* 399, 599, 205-C7 (1992)

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

Formation of the Dark Bays in the Crab Optical Synchrotron Nebula: Is the Crab Pulsar Wind Bubble Interacting with Its Progenitor's Wind? *Zhi-Yun Li & Mitchell C. Begelman.* 400, 186, 211-C1 (1992)

Name: Cygnus Loop

Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

Infrared Emission from X-Ray and Optically Emitting Regions in the Cygnus Loop Supernova Remnant. *Richard G. Arendt, Eli Dwek, & David Leisawitz.* 400, 562, 217-D1 (1992)

Name: Cygnus X

A Complete CO Survey of the Cygnus X Region. *Helen O. Leung & P. Thaddeus.* 81, 267, 38-F3 (1992)

Name: Eridanus

The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J Rickard, F. Verter, M. W. Pound, & D. Leisawitz.* 390, 514, 81-F7 (1992)

Name: Gum Nebula

Discovery of X-Ray Emission Associated with the Gum Nebula. *D. A. Leahy, J. Nousek, & G. Garmire.* 385, 561, 20-B4 (1992)

Highly Ionized Gas in the Gum Nebula and Elsewhere: A Comparison of *IUE* and *Copernicus* Satellite Results. *Richard J. Edgar & Blair D. Savage.* 396, 124, 156-F4 (1992)

Name: Haro 4-255 FIR

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

Name: Kepler's Supernova

Dynamics of Kepler's Supernova Remnant. *Kazimierz J. Borkowski, John M. Blondin, & Craig L. Sarazin.* 400, 222, 211-F5 (1992)

Name: Monoceros R2

High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

Name: ρ Ophiuchi

Near-Infrared Observations of Young Stellar Objects in the ρ Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 395, 516, 149-B5 (1992)

VLBI Survey of ρ Ophiuchi: A Population of Magnetized, Diskless Young Stellar Objects. *Philippe André, Bryan D. Deeney, Robert B. Phillips, & Jean-François Lestrade.* 401, 667, 230-G1 (1992)

Name: Orion B

Global Star Formation in the L1630 Molecular Cloud. *Elizabeth A. Lada.* 393, L25, 120-D7 (1992)

Name: Orion Kleinmann-Low

High-Resolution Images of Dust Emission from Orion-KL. *Melvyn Wright, Goeran Sandell, David J. Wilner, & Richard L. Plambeck.* 393, 225, 117-A1 (1992)

Name: Orion Nebula

Faint Emission Lines in the Spectrum of the Orion Nebula and the Abundances of Some of the Rarer Elements. *Donald E. Osterbrock, Hien D. Tran, & Sylvain Veilleux.* 389, 305, 63-F11 (1992)

Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

CNO Abundances and Temperature Fluctuations in the Orion Nebula. *Donald K. Walter, Reginald J. Dufour, & J. Jeff Hester.* 397, 196, 170-D7 (1992)

CO (v = 1–0) Emission in the Molecular Shock Regions of OMC-1. *G. L. Grasdalen, John A. Hackwell, David K. Lynch, & Ray W. Russell.* 397, L119, 181-E13 (1992)

Imaging Spectrophotometry of the Orion Nebula Core. I. Emission-Line Mapping and Physical Conditions. *Richard W. Pogge, J. Michael Owen, & Bruce Atwood.* 399, 147, 197-A9 (1992)

Extinction and Scattering in the Orion Nebula: Comparison of Optical and VLA 21 Centimeter Studies. *C. R. O'Dell, Donald K. Walter, & Reginald J. Dufour.* 399, L67, 200-G12 (1992)

Name: Orion IRc2

Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

Mid-Infrared Imaging of Orion BN/KL: Astrometry of IRc2 and the SiO Maser. *Daniel Y. Gezari.* 396, L43, 160-G8 (1992)

Name: Parsamyan 21

The FU Orionis–Type Spectrum and Bipolar Outflow of Parsamyan 21. *H. J. Staude & Th. Neckel.* 400, 556, 217-C6 (1992)

Name: Sagittarius B

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6−0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

Name: Sagittarius B2

High Angular Resolution Far-Infrared Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, D. F. Lester, & P. M. Harvey.* 389, 338, 64-B7 (1992)

Name: Serpens Region

The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

Name: Sharpless 171

A CO Study of Sharpless 171: Evidence for Interaction between the H II Region and Its Neighboring Molecular Cloud. *Ji Yang & Yasuo Fukui.* 386, 618, 33-A8 (1992)

Name: Taurus Dark Cloud

Star Formation in Taurus. I. The *IRAS* Faint Source Survey. *C. A. Beichman, F. Boulanger, & M. Moshir.* 386, 248, 27-C5 (1992)

Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)

NGC Number: NGC 604

The Molecular Interstellar Medium in Two Giant H II Regions in M33: NGC 604 and NGC 595. *Christine D. Wilson & Nick Scoville.* 385, 512, 19-E5 (1992)

NGC Number: NGC 595

The Molecular Interstellar Medium in Two Giant H II Regions in M33: NGC 604 and NGC 595. *Christine D. Wilson & Nick Scoville.* 385, 512, 19-E5 (1992)

NGC Number: NGC 2023

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

NGC Number: NGC 1976

Extinction and Scattering in the Orion Nebula: Comparison of Optical and VLA 21 Centimeter Studies. *C. R. O'Dell, Donald K. Walter, & Reginald J. Dufour.* 399, L67, 200-G12 (1992)

NGC Number: NGC 2024

High Spatial Resolution 1.3 Centimeter Imaging of the NGC 2024 Star-forming Region. *R. A. Gaume, K. J. Johnston, & T. L. Wilson.* 388, 489, 56-D1 (1992)

Orion B (NGC 2024). III. BIMA SO $J_K = 2_2 \rightarrow 1_1$ Observations: Evidence for Peculiar Sulfur Chemistry. *Peter J. Barnes & Richard M. Crutcher.* 389, 325, 64-A5 (1992)

NGC Number: NGC 2071

Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

High-Velocity OH in Absorption: A New Tracer of Shocked Gas in Outflows? *A. Ruiz, L. F. Rodríguez, J. Cantó, & I. F. Mirabel.* 398, 139, 183-F3 (1992)

NGC Number: NGC 2363

The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

NGC Number: NGC 6888

An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

On the Chemodynamics of Wolf-Rayet Ring Nebulae: NGC 6888. *César Esteban & José M. Vílchez.* 390, 536, 82-A7 (1992)

NGC Number: NGC 7023

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

NGC Number: NGC 7538

Are the NGC 7538 Formaldehyde Masers Really Unusual? *Preethi Pratap, Lewis E. Snyder, & Wolfgang Batrla.* 387, 241, 40-A1 (1992)

Alphanumeric: 0623+71

The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)

Alphanumeric: AFGL 437

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

Alphanumeric: AFGL 618

Near-Infrared Observations of AFGL 618. II. The Atomic Spectrum. *Douglas M. Kelly, William B. Latter, & G. H. Rieke.* 395, 174, 142-D1 (1992)

Alphanumeric: AFGL 5142

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

Alphanumeric: AFGL 5157

The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

Alphanumeric: B335

Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

Alphanumeric: CRL 2136

Motion at the Ionization Front in the Orion Nebula: A Kinematic Study of the [O I] Line. *C. R. O'Dell & Zheng Wen.* 387, 229, 39-F10 (1992)

The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)

Alphanumeric: CRL 2688

The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

Alphanumeric: CTA 1

Faraday Rotation Measure Irregularities through the Supernova Remnant CTA 1: A Site of Enhanced Interstellar Plasma Turbulence. *John H. Simonetti.* 386, 170, 26-C3 (1992)

Alphanumeric: CTB 109

The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

Alphanumeric: DBB 80

Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

Alphanumeric: DR 21

Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

Synthesis Imaging of the DR 21 (OH) Cluster. II. Thermal Ammonia and Water Maser Emission. *Jeffrey G. Mangum, Alwyn Wootten, & Lee G. Mundy.* 388, 467, 56-B6 (1992)

High-Velocity HCO^+ Emission Associated with the DR 21 Molecular Outflow. *Rognvald P. Garden & John E. Carlstrom.* 392, 602, 109-F7 (1992)

Alphanumeric: G5.89−0.39

Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89−0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

Alphanumeric: G29.9−0.02

Bow Shock Models for the Velocity Structure of Ultracompact H II Regions. *Dave Van Buren & Mordecai-Mark Mac Low.* 394, 534, 136-A7 (1992)

Alphanumeric: G34.3+0.1

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

Alphanumeric: G34.3+0.2

The Molecular Core in G34.3+0.2: Millimeter Interferometric Observations of HCO^+, $H^{13}CN$, $HC^{15}N$, and SO. *Patricia Carral & William J. Welch.* 385, 244, 15-A4 (1992)

Alphanumeric: G100−13

The Unusual Cometary Star-forming Region G110−13. *Sten Odenwald, Jacqueline Fischer, Felix J. Lockman, & Sally Stemwedel.* 397, 174, 170-B9 (1992)

Alphanumeric: G359.1−0.5

A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1−0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

Alphanumeric: GL 2136

Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)

Alphanumeric: GL 2591

Infrared Morphology of Mass Outflow from GL 2591. *Motohide Tamura & Takuya Yamashita.* 391, 710, 96-G4 (1992)

Alphanumeric: HH 2

On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

Alphanumeric: HH 32A

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

Alphanumeric: HH 111

Structure and Kinematics of the HH 111 Jet. *Bo Reipurth, A. C. Raga, & Steve Heathcote.* 392, 145, 102-F10 (1992)

Alphanumeric: HH 135

Spectacular Herbig-Haro Objects in the Carina Region. *K. Ogura & J. R. Walsh.* 400, 248, 212-A7 (1992)

Alphanumeric: HH 136

Spectacular Herbig-Haro Objects in the Carina Region. *K. Ogura & J. R. Walsh.* 400, 248, 212-A7 (1992)

Alphanumeric: IC 443

Strongly Shocked Interstellar Gas in IC 443. I. High-Resolution Molecular Observations. *Z. Wang & N. Z. Scoville.* 386, 158, 26-B3 (1992)

Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

Structure and Kinematics of Dense Gas Associated with the Supernova Remnant IC 443. *R. L. Dickman, Ronald L. Snell, L. M. Ziurys, & Yi-Long Huang.* 400, 203, 211-C9 (1992)

Alphanumeric: L134N

A Source Model for the L134N Molecular Cloud. *Daryl A. Swade & F. Peter Schloerb.* 392, 543, 109-A9 (1992)

Alphanumeric: L1157

The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

Alphanumeric: L1551 IRS 5

The Molecular Hydrogen Emission around L1551 IRS 5: Shock-Heated Molecular Gas at the Base of the Molecular Outflow. *Takuya Yamashita & Motohide Tamura.* 387, L93, 48-E5 (1992)

Alphanumeric: L1630

Global Star Formation in the L1630 Molecular Cloud. *Elizabeth A. Lada.* 393, L25, 120-D7 (1992)

Alphanumeric: L1641

^{13}CO and HCO^+ Observations of *IRAS* Sources in L1641. *Hua Chen, Yasuo Fukui, & Ji Yang.* 398, 544, 190-G12 (1992)

Alphanumeric: LMC N49

A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

Alphanumeric: M−0.02−0.07

The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

Alphanumeric: N49

Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope. *Olaf Vancura, William P. Blair, Knox S. Long, Arthur F. Davidsen, Charles W. Bowers, W. Van Dyke Dixon, Samuel T. Durrance, Paul D. Feldman, Henry C. Ferguson, Richard C. Henry, Randy A. Kimble, Gerard A. Kriss, Jeffrey W. Kruk, & H. Warren Moos.* 401, 220, 223-G1 (1992)

Alphanumeric: OH 231.8+4.2

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

Alphanumeric: RCW 58

An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

Alphanumeric: RNO 43

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

Alphanumeric: S122

Riddle and Puzzle of the Optical Region S122 = 2306+1439. *J. P. Vallée & A. G. de Bruyn.* 393, 674, 124-B10 (1992)

Alphanumeric: S255

High-Velocity OH in Absorption: A New Tracer of Shocked Gas in Outflows? *A. Ruiz, L. F. Rodríguez, J. Cantó, & I. F. Mirabel.* 398, 139, 183-F3 (1992)

Alphanumeric: S308

An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

Alphanumeric: Sh 187

The Sharpless 187 Gas Complex: A Multifrequency Study. *G. Joncas, D. Durand, & R. S. Roger.* 387, 591, 46-A9 (1992)

Alphanumeric: SN 1985A

Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

Alphanumeric: SN 1987A

Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

Alphanumeric: TMC-1

Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1). *Yasuhiro Hirahara, Hiroko Suzuki, Satoshi Yamamoto, Kentarou Kawaguchi, Norio Kaifu, Masatoshi Ohishi, Shuro Takano, Shin-ichi Ishikawa, & Akimasa Masuda.* 394, 539, 136-B1 (1992)

Alphanumeric: W3

Anomalously High Apparent Abundances of Singly Ionized Helium in the Galactic H II Region W3A. *P. R. Roelfsema, W. M. Goss, & D. C. V. Mallik.* 394, 188, 130-C13 (1992)

Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

Alphanumeric: W3(OH)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

Alphanumeric: W49

Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

ISM: JETS AND OUTFLOWS

The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

Discovery of Outflows from Young Stellar Objects in Bok Globules. *João Lin Yun & Dan P. Clemens.* 385, L21, 17-C6 (1992)

Knots in Stellar Jets from Time-dependent Sources. *A. C. Raga & Lev Kofman.* 386, 222, 27-A1 (1992)

A CO $J = 2 \rightarrow 1$ Study of the Outflow Sources GL 490, GS 2591, M8E-IR, and W3 IRS 5. *George F. Mitchell, Tatsuhiko I. Hasegawa, & Jason Schella.* 386, 604, 32-G6 (1992)

Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

Properties of Swept-up Molecular Outflows. *Colin R. Masson & Lawrence M. Chernin.* 387, L47, 43-F1 (1992)

The Magnetic Collimation of Bipolar Outflows. I. Adiabatic Simulations. *James M. Stone & Michael L. Norman.* 389, 297, 63-F1 (1992)

The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*. *Denis Burgarella & Francesco Paresce.* 389, L29, 66-D10 (1992)

Jet Formation in the Transition from the Asymptotic Giant Branch to Planetary Nebulae. *Noam Soker.* 389, 628, 69-C1 (1992)

Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)

Infrared Morphology of Mass Outflow from GL 2591. *Motohide Tamura & Takuya Yamashita.* 391, 710, 96-G4 (1992)

Structure and Kinematics of the HH 111 Jet. *Bo Reipurth, A. C. Raga, & Steve Heathcote.* 392, 145, 102-F10 (1992)

On the Use of Forbidden Lines as Density Diagnostics in Stratified Media. *Pedro N. Safier.* 392, 492, 108-D5 (1992)

High-Velocity HCO^+ Emission Associated with the DR 21 Molecular Outflow. *Rognvald P. Garden & John E. Carlstrom.* 392, 602, 109-F7 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

Surveys of Dense Cores for High-Velocity Gas. *Yuefang Wu, Shudong Zhou, & Neal J. Evans II.* 394, 196, 130-D9 (1992)

Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chernin & Colin R. Masson.* 396, L35, 160-F8 (1992)

On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

High-Velocity HCO^+ Emission from L1551 IRS 5: Evidence for Wind-Cloud Interactions. *Alexander Rudolph.* 397, L111, 181-D13 (1992)

^{13}CO and HCO^+ Observations of *IRAS* Sources in L1641. *Hua Chen, Yasuo Fukui, & Ji Yang.* 398, 544, 190-G12 (1992)

Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

Multiple Jets from the Young Star IRAS 21334+5039. *Howard A. Smith & Jacqueline Fischer.* 398, L99, 194-D1 (1992)

Circumprotostellar Environments. I. Molecular Outflows from Protostar Candidates in Taurus. *G. H. Moriarty-Schieven, P. G. Wannier, M. Tamura, & Jocelyn Keene.* 400, 260, 212-B10 (1992)

The FU Orionis–Type Spectrum and Bipolar Outflow of Parsamyan 21. *H. J. Staude & Th. Neckel.* 400, 556, 217-C6 (1992)

Radiation-viscous Boundary Layers. *Nahum Arav & Mitchell C. Begelman.* 401, 125, 222-E7 (1992)

Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

ISM: KINEMATICS AND DYNAMICS

Dense Cores in Dark Clouds. VII. Line Width–Size Relations. *G. A. Fuller & P. C. Myers.* 384, 523, 8-F1 (1992)

The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

The Origin of Broad Emission Lines in the Extragalactic Giant H II Region NGC 2363. *Jean-René Roy, Martin Aubé, Marshall L. McCall, & R. J. Dufour.* 386, 498, 31-E7 (1992)

A CO $J = 2 \rightarrow 1$ Study of the Outflow Sources GL 490, GS 2591, M8E-IR, and W3 IRS 5. *George F. Mitchell, Tatsuhiko I. Hasegawa, & Jason Schella.* 386, 604, 32-G6 (1992)

Motion at the Ionization Front in the Orion Nebula: A Kinematic Study of the [O I] Line. *C. R. O'Dell & Zheng Wen.* 387, 229, 39-F10 (1992)

Spectroscopy of Emission-Line Nebulae in Powerful Radio Galaxies: Interpretation. *S. A. Baum, T. M. Heckman, & W. van Breugel.* 389, 208, 62-E7 (1992)

Kinematics and Morphology of Material Occulting ζ Ophiuchi. *H. S. Liszt.* 390, 226, 76-G1 (1992)

On the Chemodynamics of Wolf-Rayet Ring Nebulae: NGC 6888. *César Esteban & José M. Vílchez.* 390, 536, 82-A7 (1992)

Highly Ionized Atoms toward HD 93521. *Lyman Spitzer, Jr., & Edward L. Fitzpatrick.* 391, L41, 92-C11 (1992)

Structure and Kinematics of the HH 111 Jet. *Bo Reipurth, A. C. Raga, & Steve Heathcote.* 392, 145, 102-F10 (1992)

Initiation of Bipolar Flows by Magnetic Field Twisting in Protostellar Nebulae. *William I. Newman, Alice L. Newman, & Richard V. E. Lovelace.* 392, 622, 110-A1 (1992)

A Complete CO Survey of the Cygnus X Region. *Helen O. Leung & P. Thaddeus.* 81, 267, 38-F3 (1992)

Bow Shock Models for the Velocity Structure of Ultracompact H II Regions. *Dave Van Buren & Mordecai-Mark Mac Low.* 394, 534, 136-A7 (1992)

Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)

Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

A High-Resolution 21 Centimeter Line Study of Infrared Cirrus. *G. Joncas, F. Boulanger, & P. E. Dewdney.* 397, 165, 170-A10 (1992)

Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

The Synchrotron Bays of the Crab Nebula: A Magnetic Structure Associated with a Presupernova Circumstellar Disk. *Robert A. Fesen, Crystal L. Martin, & J. Michael Shull.* 399, 599, 205-C7 (1992)

Structure and Kinematics of Dense Gas Associated with the Supernova Remnant IC 443. *R. L. Dickman, Ronald L. Snell, L. M. Ziurys, & Yi-Long Huang.* 400, 203, 211-C9 (1992)

Submillimeter Line Observations of the Proto–Planetary Nebula CRL 2688. *P. A. Jaminet, W. C. Danchi, Göran Sandell, & E. C. Sutton.* 400, 535, 217-A7 (1992)

Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6−0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

ISM: MAGNETIC FIELDS

The Zeeman Effect in Astrophysical Water Masers and the Observation of Strong Magnetic Fields in Regions of Star Formation. *Gerald E. Nedoluha & William D. Watson.* 384, 185, 3-C5 (1992)

Zeeman Measurements of the Magnetic Fields at the Galactic Center. *N. E. B. Killeen, K. Y. Lo, & R. Crutcher.* 385, 585, 20-D6 (1992)

Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

Faraday Rotation Measure Irregularities through the Supernova Remnant CTA 1: A Site of Enhanced Interstellar Plasma Turbulence. *John H. Simonetti.* 386, 170, 26-C3 (1992)

Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

Effect of an Ensemble of Explosions on the Galactic Dynamo. I. General Formulation. *Katia Ferrière.* 389, 286, 63-E1 (1992)

Infrared Polarimetry and the Galactic Magnetic Field. II. Improved Models. *Terry Jay Jones, Dimitri Klebe, & John M. Dickey.* 389, 602, 69-A1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

Effect of the Explosion of Supernovae and Superbubbles on the Galactic Dynamo. *Katia Ferrière.* 391, 188, 88-C13 (1992)

Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

Giant Molecular Cloud Formation through the Parker Instability in a Skewed Magnetic Field. *Tomoyuki Hanawa, Ryoji Matsumoto, & Kazunari Shibata.* 393, L71, 127-E1 (1992)

Pressure-confined Clumps in Magnetized Molecular Clouds. *Frank Bertoldi & Christopher F. McKee.* 395, 140, 142-A1 (1992)

The Spectrum of Random Magnetic Fields in the Mean Field Dynamo Theory of the Galactic Magnetic Field. *Russell M. Kulsrud & Stephen W. Anderson.* 396, 606, 165-A1 (1992)

The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

On the Amplification of Large-Scale Magnetic Fields in Spiral Galaxies by Galactic Winds. *S. J. Spencer & L. E. Cram.* 400, 484, 216-C12 (1992)

Fast Dynamos, Cosmic Rays, and the Galactic Magnetic Field. *E. N. Parker.* 401, 137, 222-F7 (1992)

ISM: MOLECULES

^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)

Ambiguities in the Identification of Giant Molecular Cloud Complexes from Longitude-Velocity Diagrams. *David S. Adler & William W. Roberts, Jr.* 384, 95, 2-B12 (1992)

Dense Cores in Dark Clouds. VII. Line Width–Size Relations. *G. A. Fuller & P. C. Myers.* 384, 523, 8-F1 (1992)

The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

The Millimeter-Wave Spectrum of the CaOH Radical ($X\,^2\Sigma^+$). *L. M. Ziurys, W. L. Barclay, Jr., & M. A. Anderson.* 384, L63, 11-E1 (1992)

Formaldehyde Absorption in the Nucleus of NGC 3628. *Willem A. Baan & W. M. Goss.* 385, 188, 14-C10 (1992)

The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

The Molecular Interstellar Medium in Two Giant H II Regions in M33: NGC 604 and NGC 595. *Christine D. Wilson & Nick Scoville.* 385, 512, 19-E5 (1992)

Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

The Development of H I Dissociation Zones around New H II Regions. *R. S. Roger & P. E. Dewdney.* 385, 536, 19-G5 (1992)

Zeeman Measurements of the Magnetic Fields at the Galactic Center. *N. E. B. Killeen, K. Y. Lo, & R. Crutcher.* 385, 585, 20-D6 (1992)

An Extended Search for Extragalactic O_2. *H. S. Liszt.* 386, 139, 25-G9 (1992)

The Rotational Spectrum of the Carbon Chain Radical HCCCO. *A. L. Cooksy, J. K. G. Watson, C. A. Gottlieb, & P. Thaddeus.* 386, L27, 29-D7 (1992)

Numerical Models for the Collapse and Fragmentation of Centrally Condensed Molecular Cloud Cores. *Elizabeth A. Myhill & William M. Kaula.* 386, 578, 32-E4 (1992)

Detection of Isocyanoacetylene HCCNC in TMC-1. *Kentarou Kawaguchi, Masatoshi Ohishi, Shin-ichi Ishikawa, & Norio Kaifu.* 386, L51, 36-C10 (1992)

A Survey of CS $J = 7 \rightarrow 6$ in Regions of Massive Star Formation. *René Plume, D. T. Jaffe, & Neal J. Evans II.* 78, 505, 9-F5 (1992)

Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

Are the NGC 7538 Formaldehyde Masers Really Unusual? *Preethi Pratap, Lewis E. Snyder, & Wolfgang Batrla.* 387, 241, 40-A1 (1992)

A Survey of N_2H^+ in Dense Clouds: Implications for Interstellar Nitrogen and Ion-Molecule Chemistry. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 387, 417, 42-B6 (1992)

Dense Molecular Gas and Starbursts in Ultraluminous Galaxies. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 387, L55, 48-B1 (1992)

The Molecular Hydrogen Emission around L1551 IRS 5: Shock-Heated Molecular Gas at the Base of the Molecular Outflow. *Takuya Yamashita & Motohide Tamura.* 387, L93, 48-E5 (1992)

Infrared Emission Spectra of Benzene and Naphthalene: Implications for the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *Jerrell D. Brenner & John R. Barker.* 388, L39, 52-D6 (1992)

Synthesis Imaging of the DR 21 (OH) Cluster. II. Thermal Ammonia and Water Maser Emission. *Jeffrey G. Mangum, Alwyn Wootten, & Lee G. Mundy.* 388, 467, 56-B6 (1992)

Orion B (NGC 2024). III. BIMA SO $J_K = 2_2 \rightarrow 1_1$ Observations: Evidence for Peculiar Sulfur Chemistry. *Peter J. Barnes & Richard M. Crutcher.* 389, 325, 64-A5 (1992)

High Angular Resolution Far-Infrared Observations of Sagittarius B2. *Paul F. Goldsmith, Dariusz C. Lis, D. F. Lester, & P. M. Harvey.* 389, 338, 64-B7 (1992)

Kinematics and Morphology of Material Occulting ζ Ophiuchi. *H. S. Liszt.* 390, 226, 76-G1 (1992)

Primordial Giant Molecular Cloud Clumps Can Be Probed—Optically. *David L. Block, J. E. Dyson, & Claus Madsen.* 390, L13, 78-C1 (1992)

Switch Shocks in Molecular Clouds. I. Plane-parallel Magneto-hydrodynamic Analysis. *Michael D. Smith.* 390, 447, 81-A1 (1992)

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)

The Kinematics of the Molecular Gas in Centaurus A. *A. C. Quillen, P. T. de Zeeuw, E. S. Phinney, & T. G. Phillips.* 391, 121, 87-D13 (1992)

SO in Starburst Galaxies. *S. J. Petuchowski & C. L. Bennett.* 391, 137, 87-F5 (1992)

Formaldehyde Reactions in Dark Clouds. *A. D. Sen, V. G. Anicich, & S. R. Federman.* 391, 141, 87-F10 (1992)

CO Emission from the Dwarf Irregular Galaxy NGC 6822. *Christine D. Wilson.* 391, 144, 87-G1 (1992)

Velocity Structure in Optical CH^+ Lines toward HD 190603 and Implications for the Formation of CH^+. *M. M. Allen & Theodore P. Snow.* 391, 152, 87-G13 (1992)

On the Nature of the Molecular Cores in High-Latitude Cirrus Clouds. II. Structure, Stability, and Physical Conditions from $C^{18}O$ Observations. *B. E. Turner, Lanping Xu, & L. J Rickard.* 391, 158, 88-A7 (1992)

Walls and Windows in the Molecular Milky Way. *William H. Waller & Lowell E. Tacconi-Garman.* 80, 305, 26-D3 (1992)

Infrared Morphology of Mass Outflow from GL 2591. *Motohide Tamura & Takuya Yamashita.* 391, 710, 96-G4 (1992)

Chemistry in Circumstellar Disks: CS toward HL Tauri. *Geoffrey A. Blake, Ewine F. van Dishoeck, & Anneila I. Sargent.* 391, L99, 100-A5 (1992)

A Source Model for the L134N Molecular Cloud. *Daryl A. Swade & F. Peter Schloerb.* 392, 543, 109-A9 (1992)

A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

The Diffuse Interstellar Cloud toward HD 179406 (20 Aquilae). *Margaret Murray Hanson, Theodore P. Snow, & John H. Black.* 392, 571, 109-C12 (1992)

High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

High-Velocity HCO^+ Emission Associated with the DR 21 Molecular Outflow. *Rognvald P. Garden & John E. Carlstrom.* 392, 602, 109-F7 (1992)

The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)

Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

Estimates of N_2 Abundances in Dense Molecular Clouds. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 393, 188, 116-D6 (1992)

Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

The Tully-Fisher Relation for the CO Line. *John M. Dickey & Ilya Kazès.* 393, 530, 122-D5 (1992)

Surveys of Dense Cores for High-Velocity Gas. *Yuefang Wu, Shudong Zhou, & Neal J. Evans II.* 394, 196, 130-D9 (1992)

A Complete CO Survey of the Cygnus X Region. *Helen O. Leung & P. Thaddeus.* 81, 267, 38-F3 (1992)

Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1). *Yasuhiro Hirahara, Hiroko Suzuki, Satoshi Yamamoto, Kentarou Kawaguchi, Norio Kaifu, Masatoshi Ohishi, Shuro Takano, Shin-ichi Ishikawa, & Akimasa Masuda.* 394, 539, 136-B1 (1992)

Pressure-confined Clumps in Magnetized Molecular Clouds. *Frank Bertoldi & Christopher F. McKee.* 395, 140, 142-A1 (1992)

The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

The Ultraviolet and Visible Spectrum of the Polycyclic Aromatic Hydrocarbon $C_{10}H_8^+$: Possible Contributions to the Diffuse Interstellar Bands and to the Ultraviolet–Visible Extinction. *F. Salama & L. J. Allamandola.* 395, 301, 143-G9 (1992)

Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)

High-Resolution Photoabsorption Cross Sections of $E^1\Pi$–$X^1\Sigma^+$ Vibrational Bands of ^{12}CO and ^{13}CO. *G. Stark, P. L. Smith, K. Ito, & K. Yoshino.* 395, 705, 152-B5 (1992)

Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

Evidence for Large-Scale Expanding Motions within the Orion A Molecular Cloud. *M. H. Heyer, J. Morgan, F. P. Schloerb, R. L. Snell, & P. F. Goldsmith.* 395, L99, 154-B1 (1992)

Protonated Acetylene: An Important Circumstellar and Interstellar Ion. *A. E. Glassgold, A. Omont, & M. Guélin.* 396, 115, 156-E5 (1992)

Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)

Detection of HNCCC in TMC-1. *Kentarou Kawaguchi, Shuro Takano, Masatoshi Ohishi, Shin-ichi Ishikawa, Keisuke Miyazawa, Norio Kaifu, Koichi Yamashita, Satoshi Yamamoto, Shuji Saito, Yasuhiro Ohshima, & Yasuki Endo.* 396, L49, 161-A1 (1992)

Density Structure and Star Formation in Dense Cores with Thermal and Nonthermal Motions. *P. C. Myers & G. A. Fuller.* 396, 631, 165-C1 (1992)

A Sensitive Search for Rotational Lines of Vibrationally Excited HC_5N in IRC +10°216. *M. B. Bell, P. A. Feldman, & L. W. Avery.* 396, 643, 165-D1 (1992)

Outflowing Molecular Gas in NGC 3079. *Judith A. Irwin & Yoshiaki Sofue.* 396, L75, 167-B1 (1992)

On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)

On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

Detection of Interstellar SO^+: A Diagnostic of Dissociative Shock Chemistry. *B. E. Turner.* 396, L107, 167-F1 (1992)

Aperture Synthesis CO (J = 3–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

Models of Gas-Grain Chemistry in Dense Interstellar Clouds with Complex Organic Molecules. *Tatsuhiko I. Hasegawa, Eric Herbst, & Chun Ming Leung.* 82, 167, 51-D13 (1992)

Calculations of Ion-Molecule Deuterium Fractionation Reactions Involving HD. *Sergio A. Maluendes, A. D. McLean, & Eric Herbst.* 397, 477, 176-F10 (1992)

Fractionation of CO in the Diffuse Clouds toward ζ Ophiuchi. *Yaron Sheffer, S. R. Federman, David L. Lambert, & Jason A. Cardelli.* 397, 482, 176-G3 (1992)

CO (v = 1–0) Emission in the Molecular Shock Regions of OMC-1. *G. L. Grasdalen, John A. Hackwell, David K. Lynch, & Ray W. Russell.* 397, L119, 181-E13 (1992)

Detection of the Quadrupole Hyperfine Structure in $HCNH^+$. *L. M. Ziurys, A. J. Apponi, & J. T. Yoder.* 397, L123, 181-F6 (1992)

CN Rotational Excitation. *E. Palazzi, N. Mandolesi, & Philippe Crane.* 398, 53, 182-F5 (1992)

High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

A Dense Molecular Ring Surrounding the Nonthermal Galactic Center Radio Shell G359.1−0.5. *Keven I. Uchida, Mark Morris, J. Bally, M. Pound, & F. Yusef-Zadeh.* 398, 128, 183-E5 (1992)

Warm Molecular Gas in the Primeval Galaxy IRAS 10214+4724. *P. M. Solomon, D. Downes, & S. J. E. Radford.* 398, L29, 187-E1 (1992)

Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

^{13}CO and HCO^+ Observations of *IRAS* Sources in L1641. *Hua Chen, Yasuo Fukui, & Ji Yang.* 398, 544, 190-G12 (1992)

Nuclear Molecular Gas in the Virgo Cluster S0 Galaxy NGC 4710. *J. M. Wrobel & Jeffrey D. P. Kenney.* 399, 94, 196-C10 (1992)

Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

Infrared Spectroscopy of Dense Clouds in the C–H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

On the Molecular Complexity of the Hot Cores in Orion A: Grain Surface Chemistry as "The Last Refuge of the Scoundrel." *S. B. Charnley, A. G. G. M. Tielens, & T. J. Millar.* 399, L71, 201-A8 (1992)

Methanol Ice in the Protostar GL 2136. *C. J. Skinner, A. G. G. M. Tielens, M. J. Barlow, & K. Justtanont.* 399, L79, 201-B7 (1992)

Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

A Survey for Extragalactic HCN and HCO^+. *Nguyen-Q-Rieu, James M. Jackson, Christian Henkel, Truong-Bach, & Rainer Mauersberger.* 399, 521, 204-D1 (1992)

Interstellar H_3O^+ and Its Relation to the O_2 and H_2O Abundances. *T. G. Phillips, Ewine F. van Dishoeck, & Jocelyn Keene.* 399, 533, 204-E1 (1992)

On the Virial Theorem for Turbulent Molecular Clouds. *Christopher F. McKee & Ellen G. Zweibel.* 399, 551, 204-F7 (1992)

Mid-Infrared Rotational Line Emission from Interstellar Molecular Hydrogen. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 399, 563, 204-G7 (1992)

A Surface Brightness Correlation between Carbon Monoxide and Nonthermal Radio Continuum Emission in the Galaxy. *R. J. Allen.* 399, 573, 205-A5 (1992)

Submillimeter Line Observations of the Proto–Planetary Nebula CRL 2688. *P. A. Jaminet, W. C. Danchi, Göran Sandell, & E. C. Sutton.* 400, 535, 217-A7 (1992)

The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)

The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

Observational Constraints on Solar Nebula Nitrogen Chemistry: N_2/NH_3. *Maria Womack, Susan Wyckoff, & L. M. Ziurys.* 401, 728, 231-E6 (1992)

On Ionized Napthalene ($C_{10}H_8^+$) as a Carrier of Diffuse Interstellar Bands. *Theodore P. Snow.* 401, 775, 232-B10 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

Photometric and Spectroscopic Analysis of High Galactic Latitude Molecular Clouds. I. Distances and Extinctions of Stars toward 25 Selected Regions. *B. E. Penprase.* 83, 273, 61-E7 (1992)

ISM: PLANETARY NEBULAE: GENERAL

Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)

Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

Extended Red Emission from Dust in Planetary Nebulae. *D. G. Furton & A. N. Witt.* 386, 587, 32-F1 (1992)

Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)

Planetary Nebulae as Standard Candles. VIII. Evidence for a Change in the Luminosity Function Cutoff at Low Metallicity. *Robin Ciardullo & George H. Jacoby.* 388, 268, 53-F1 (1992)

A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

Improved Calculations for the C III λλ1907,1909 and Si III λλ1883,1892 Electron Density Sensitive Emission-Line Ratios, and a Comparison with *IUE* Observations. *F. P. Keenan, W. A. Feibelman, & K. A. Berrington.* 389, 443, 65-D5 (1992)

Jet Formation in the Transition from the Asymptotic Giant Branch to Planetary Nebulae. *Noam Soker.* 389, 628, 69-C1 (1992)

N III Line Emission in Planetary Nebulae: Continuum Fluorescence. *G. J. Ferland.* 389, L63, 73-D1 (1992)

Spectrophotometry of Bowen Resonance Fluorescence Lines in Three Planetary Nebulae. *C. R. O'Dell & Christopher O. Miller.* 390, 219, 76-F4 (1992)

Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)

Models of Planetary Nebula Spectral Evolution. *Kevin Volk.* 80, 347, 27-B'1 (1992)

Stellar Wind Paleontology. II. Faint Halos and Historical Mass Ejection in Planetary Nebulae. *Bruce Balick, Guillermo Gonzalez, Adam Frank, & George Jacoby.* 392, 582, 109-D11 (1992)

The Kinematics of Planetary Nebulae in the Outer Fields of the Large Magellanic Cloud. *E. Vassiliadis, Stephen J. Meatheringham, & Michael A. Dopita.* 394, 489, 135-D7 (1992)

X-Ray Observations of Planetary Nebulae with Binary Nuclei. *K. M. V. Apparao, G. D. Berthiaume, & J. A. Nousek.* 397, 534, 177-E5 (1992)

Optical Spectroscopy of Magellanic Cloud Planetary Nebulae. III. *E. Vassiliadis, Michael A. Dopita, D. H. Morgan, & J. F. Bell.* 83, 87, 58-B1 (1992)

ISM: PLANETARY NEBULAE: INDIVIDUAL

NGC Number: NGC 7293

CO in the Cometary Globules of the Helix Nebula. *P. J. Huggins, R. Bachiller, P. Cox, & T. Forveille.* 401, L43, 227-F7 (1992)

NGC Number: NGC 7027

0.8–1.6 Micron Spectroscopy of the Planetary Nebula NGC 7027. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 384, 536, 8-G1 (1992)

Al II Emission-Line Strengths in Low-Density Astrophysical Plasmas. *F. P. Keenan, L. K. Harra, K. M. Aggarwal, & W. A. Feibelman.* 385, 375, 16-E1 (1992)

Dust and Extinction in the Planetary Nebula NGC 7027. *Charles E. Woodward, Judith L. Pipher, W. J. Forrest, Andrea Moneti, & Mark A. Shure.* 385, 567, 20-B12 (1992)

The High-Excitation Region of NGC 7027. *N. Rowlands, J. R. Houck, T. L. Hayward, & J. W. Miles.* 390, L93, 85-C1 (1992)

High Spatial Resolution Observations of HCO^+ in the NGC 7027 Molecular Envelope. *S. Deguchi, H. Izumiura, Nguyen-Q-Rieu, K. M. Shibata, N. Ukita, & I. Yamamura.* 392, 597, 109-F1 (1992)

BIMA Observations of HCO^+ Emission from the Planetary Nebula NGC 7027. *Lauren Likkel.* 397, L115, 181-E6 (1992)

Alphanumeric: AFGL 618

Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

Near-Infrared Observations of AFGL 618. II. The Atomic Spectrum. *Douglas M. Kelly, William B. Latter, & G. H. Rieke.* 395, 174, 142-D1 (1992)

Alphanumeric: CRL 2688

Submillimeter Line Observations of the Proto–Planetary Nebula CRL 2688. *P. A. Jaminet, W. C. Danchi, Göran Sandell, & E. C. Sutton.* 400, 535, 217-A7 (1992)

Alphanumeric: IC 418

The Spectra of IC 418 and IC 5117 from 1.5 to 1.75 Microns. *C. Y. Zhang & Sun Kwok.* 385, 255, 15-B1 (1992)

Alphanumeric: IC 5117

The Spectra of IC 418 and IC 5117 from 1.5 to 1.75 Microns. *C. Y. Zhang & Sun Kwok.* 385, 255, 15-B1 (1992)

Alphanumeric: IRAS 21282+5050

Extended Infrared Emission around IRAS 21282+5050. *Jesse D. Bregman, John Booth, D. Kirk Gilmore, Laura Kay, & David Rank.* 396, 120, 156-E12 (1992)

Alphanumeric: LMC N66

Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera. *J. C. Blades, M. J. Barlow, R. Albrecht, C. Barbieri, A. Boksenberg, P. Crane, J. M. Deharveng, M. J. Disney, P. Jakobsen, T. M. Kamperman, I. R. King, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, S. Osmer, & W. B. Sparks.* 398, L41, 187-F7 (1992)

Alphanumeric: LMC N201

Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera. *J. C. Blades, M. J. Barlow, R. Albrecht, C. Barbieri, A. Boksenberg, P. Crane, J. M. Deharveng, M. J. Disney, P. Jakobsen, T. M. Kamperman, I. R. King, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, S. Osmer, & W. B. Sparks.* 398, L41, 187-F7 (1992)

Alphanumeric: N67/SMP 22

A Comprehensive X-Ray Study of the Small Magellanic Cloud. *Qingde Wang & Xiaoyi Wu.* 78, 391, 7-G5 (1992)

Alphanumeric: SMC N2

Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera. *J. C. Blades, M. J. Barlow, R. Albrecht, C. Barbieri, A. Boksenberg, P. Crane, J. M. Deharveng, M. J. Disney, P. Jakobsen, T. M. Kamperman, I. R. King, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, S. Osmer, & W. B. Sparks.* 398, L41, 187-F7 (1992)

Alphanumeric: SMC N5

Imaging of Four Planetary Nebulae in the Magellanic Clouds Using the *Hubble Space Telescope* Faint Object Camera. *J. C. Blades, M. J. Barlow, R. Albrecht, C. Barbieri, A. Boksenberg, P. Crane, J. M. Deharveng, M. J. Disney, P. Jakobsen, T. M. Kamperman, I. R. King, F. Macchetto, C. D. Mackay, F. Paresce, G. Weigelt, D. Baxter, P. Greenfield, R. Jedrzejewski, A. Nota, S. Osmer, & W. B. Sparks.* 398, L41, 187-F7 (1992)

ISM: REFLECTION NEBULAE

The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)

Riddle and Puzzle of the Optical Region S122 = 2306+1439. *J. P. Vallée & A. G. de Bruyn.* 393, 674, 124-B10 (1992)

Quenched Carbonaceous Composite: Fluorescence Spectrum Compared to the Extended Red Emission Observed in Reflection Nebulae. *Akira Sakata, Setsuko Wada, Takatoshi Narisawa, Yoichi Asano, Yutaka Iijima, Takashi Onaka, & Alan T. Tokunaga.* 393, L83, 127-F7 (1992)

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

The Low Filling Factor of Dust in the Galaxy. *Jayant Murthy, H. J. Walker, & R. C. Henry.* 401, 574, 229-F8 (1992)

ISM: STRUCTURE

The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

Comparing Restored *HST* and VLA Imagery of R Aquarii. *J. M. Hollis, J. E. Dorband, & F. Yusef-Zadeh.* 386, 293, 27-G3 (1992)

Motion at the Ionization Front in the Orion Nebula: A Kinematic Study of the [O I] Line. *C. R. O'Dell & Zheng Wen.* 387, 229, 39-F10 (1992)

Synthesis Imaging of the DR 21 (OH) Cluster. II. Thermal Ammonia and Water Maser Emission. *Jeffrey G. Mangum, Alwyn Wootten, & Lee G. Mundy.* 388, 467, 56-B6 (1992)

High Spatial Resolution 1.3 Centimeter Imaging of the NGC 2024 Star-forming Region. *R. A. Gaume, K. J. Johnston, & T. L. Wilson.* 388, 489, 56-D1 (1992)

Dense Clumps of Ionized Gas near π Scorpii, as Revealed by the Fine-Structure Excitation of N II. *Frank Bertoldi & Edward B. Jenkins.* 388, 495, 56-D9 (1992)

Orion B (NGC 2024). III. BIMA SO $J_K = 2_2 \rightarrow 1_1$ Observations: Evidence for Peculiar Sulfur Chemistry. *Peter J. Barnes & Richard M. Crutcher.* 389, 325, 64-A5 (1992)

The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)

Far-Infrared Observations of M17SW: The Clumpy Structure of the Photodissociation Region. *Margaret Meixner, Michael R. Haas, A. G. G. M. Tielens, E. F. Erickson, & M. Werner.* 390, 499, 81-E3 (1992)

Stellar Wind Paleontology. II. Faint Halos and Historical Mass Ejection in Planetary Nebulae. *Bruce Balick, Guillermo Gonzalez, Adam Frank, & George Jacoby.* 392, 582, 109-D11 (1992)

Recognition and Characterization of Hierarchical Interstellar Structure. II. Structure Tree Statistics. *Padraig Houlahan & John Scalo.* 393, 172, 116-C1 (1992)

A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

High-Resolution Imaging of the Galactic Cloud Monoceros R2. *Constantine P. Gonatas, Patrick Palmer, & G. Novak.* 398, 118, 183-D7 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

Interstellar Cloud Shapes: A Minimum-Hypothesis Account Involving a Purely Gravitational Effect. *Robert C. Fleck, Jr.* 401, 146, 222-G3 (1992)

ISM: SUPERNOVA REMNANTS

Discovery of X-Ray Emission Associated with the Gum Nebula. *D. A. Leahy, J. Nousek, & G. Garmire.* 385, 561, 20-B4 (1992)

Strongly Shocked Interstellar Gas in IC 443. I. High-Resolution Molecular Observations. *Z. Wang & N. Z. Scoville.* 386, 158, 26-B3 (1992)

Faraday Rotation Measure Irregularities through the Supernova Remnant CTA 1: A Site of Enhanced Interstellar Plasma Turbulence. *John H. Simonetti.* 386, 170, 26-C3 (1992)

The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

The [O I] λλ6300,6364 Doublet of SN 1987A. *Hongwei Li & Richard McCray.* 387, 309, 40-F12 (1992)

The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

G203.2−12.3: A New Optical Supernova Remnant in Orion. *P. Frank Winkler & Bo Reipurth.* 389, L25, 66-D1 (1992)

On the Optical Counterpart of 1E 1207.4−5209, the Central X-Ray Source of a Ring-shaped Supernova Remnant. *Giovanni F. Bignami, Patrizia A. Caraveo, & Sandro Mereghetti.* 389, L67, 73-D5 (1992)

Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

The Three-dimensional Interaction of a Supernova Remnant with an Interstellar Cloud. *James M. Stone & Michael L. Norman.* 390, L17, 78-C11 (1992)

Hydrodynamic Instabilities in Supernova Remnants: Self-similar Driven Waves. *Roger A. Chevalier, John M. Blondin, & Robert T. Emmering.* 392, 118, 102-D9 (1992)

Completing the Evolution of Supernova Remnants and Their Bubbles. *Jonathan D. Slavin & Donald P. Cox.* 392, 131, 102-E9 (1992)

Activity and Radio Spectral Index Variations near the Center of the Crab Nebula. *M. F. Bietenholz & P. P. Kronberg.* 393, 206, 116-F1 (1992)

Shock Breakout in SN 1987A. *Lisa Ensman & Adam Burrows.* 393, 742, 125-A10 (1992)

A Speckle Hologram of the Interstellar Plasma. *K. M. Desai, C. R. Gwinn, J. Reynolds, E. A. King, D. Jauncey, C. Flanagan, G. Nicolson, R. A. Preston, & D. L. Jones.* 393, L75, 127-E7 (1992)

A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

The Compression of the M-0.02-0.07 Molecular Cloud by the Sagittarius A East Shell Source. *E. Serabyn, J. H. Lacy, & J. M. Achtermann.* 395, 166, 142-C1 (1992)

Ultraviolet Imaging Telescope Observations of the Cygnus Loop. *Robert H. Cornett, Edward B. Jenkins, Ralph C. Bohlin, Kwang-Ping Cheng, Theodore R. Gull, Robert W. O'Connell, Robert A. R. Parker, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L9, 144-D7 (1992)

Ultraviolet Imaging Telescope Observations of the Crab Nebula. *Gregory S. Hennessy, Robert W. O'Connell, Kwang P. Cheng, Ralph C. Bohlin, Nicholas R. Collins, Theodore R. Gull, Paul Hintzen, Joan E. Isensee, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L13, 144-E5 (1992)

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

Pulsar Nebulae in Supernovae. *Roger A. Chevalier & Claes Fransson.* 395, 540, 149-E3 (1992)

A Rapid Decline in the Optical Emission from SN 1957D in M83. *Knox S. Long, P. Frank Winkler, & William P. Blair.* 395, 632, 151-A5 (1992)

High-Resolution Optical Imaging of the Large Magellanic Cloud Plerion 0540−69. *P. A. Caraveo, G. F. Bignami, S. Mereghetti, & M. Mombelli.* 395, L103, 154-B11 (1992)

An *IRAS* Survey of Galactic Supernova Remnants. *Jon M. Saken, Robert A. Fesen, & J. Michael Shull.* 81, 715, 45-F9 (1992)

Diffusive Acceleration of Electrons in SN 1987A. *Lewis Ball & J. G. Kirk.* 396, L39, 160-G1 (1992)

Cosmic-Ray–modified Supernova Remnant Shocks. *T. W. Jones & Hyesung Kang.* 396, 575, 164-E9 (1992)

X-Ray Emission from SN 1986J in NGC 891. *Joel N. Bregman & Rachel A. Pildis.* 398, L107, 194-E7 (1992)

A Comparison of Models for Supernova Remnants Including Cosmic Rays. *Hyesung Kang & L. O'C. Drury.* 399, 182, 197-D11 (1992)

Electron Acceleration in Tycho's and Kepler's Supernova Remnants: Spectral Evidence of Fermi Shock Acceleration. *Stephen P. Reynolds & Donald C. Ellison.* 399, L75, 201-B1 (1992)

The Synchrotron Bays of the Crab Nebula: A Magnetic Structure Associated with a Presupernova Circumstellar Disk. *Robert A. Fesen, Crystal L. Martin, & J. Michael Shull.* 399, 599, 205-C7 (1992)

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

G308.8−0.1: An Unusual Supernova Remnant Containing a Short-Period Pulsar, PSR J1341−6220. *J. L. Caswell, M. J. Kesteven, R. T. Stewart, D. K. Milne, & R. F. Haynes.* 399, L151, 208-D1 (1992)

PSR J1341−6220: A Young Pulsar in a Supernova Remnant. *Victoria M. Kaspi, R. N. Manchester, Simon Johnston, A. G. Lyne, & N. D'Amico.* 399, L155, 208-D5 (1992)

Shock Wave Emergence at the Stellar Surface and the Subsequent Gas Expansion into a Vacuum: The Sphericity Involvement. *Ya. M. Kazhdan & Marina Murzina.* 400, 192, 211-C9 (1992)

Structure and Kinematics of Dense Gas Associated with the Supernova Remnant IC 443. *R. L. Dickman, Ronald L. Snell, L. M. Ziurys, & Yi-Long Huang.* 400, 203, 211-C9 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

Dynamics of Kepler's Supernova Remnant. *Kazimierz J. Borkowski, John M. Blondin, & Craig L. Sarazin.* 400, 222, 211-F5 (1992)

Infrared Emission from X-Ray and Optically Emitting Regions in the Cygnus Loop Supernova Remnant. *Richard G. Arendt, Eli Dwek, & David Leisawitz.* 400, 562, 217-D1 (1992)

Two-Temperature Models of Old Supernova Remnants with Ion and Electron Thermal Conduction. *Wei Cui & Donald P. Cox.* 401, 206, 223-F1 (1992)

Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope. *Olaf Vancura, William P. Blair, Knox S. Long, Arthur F. Davidsen, Charles W. Bowers, W. Van Dyke Dixon, Samuel T. Durrance, Paul D. Feldman, Henry C. Ferguson, Richard C. Henry, Randy A. Kimble, Gerard A. Kriss, Jeffrey W. Kruk, & H. Warren Moos.* 401, 220, 223-G1 (1992)

LINE: FORMATION

The Origin of the Optical Emission Lines Associated with Extragalactic Radio Sources. *S. M. Viegas & E. M. de Gouveia Dal Pino.* 384, 467, 8-A1 (1992)

Fe II Emission Lines. II. Excitation Mechanisms in Cool Stars. *P. G. Judge, C. Jordan, & U. Feldman.* 384, 613, 9-F10 (1992)

Inner Shell of Optically Thin Gas in Active Galactic Nuclei. *Wei Zheng.* 385, 127, 13-E4 (1992)

Magnetic Acceleration of Broad Emission-Line Clouds in Active Galactic Nuclei. *Robert T. Emmering, Roger D. Blandford, & Isaac Shlosman.* 385, 460, 19-A1 (1992)

Resonance Line Radiation Instability in Fully Ionized Plasmas. *William G. Mathews.* 386, 90, 25-C1 (1992)

Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

Resonant Compton Cooling and Annihilation Line Production in Gamma-Ray Bursts. *R. D. Preece & A. K. Harding.* 386, 308, 28-B1 (1992)

Partially Coherent Scattering in Stellar Chromospheres. I. Effects on Resonance Line Thermalization. *Kenneth G. Gayley.* 78, 549, 10-D7 (1992)

Anisotropic Line Emission and the Geometry of the Broad-Line Region in Active Galactic Nuclei. *G. J. Ferland, B. M. Peterson, K. Horne, W. F. Welsh, & S. N. Nahar.* 387, 95, 38-C1 (1992)

The Sobolev Approximation for Line Formation with Partial Frequency Redistribution. *D. G. Hummer & G. B. Rybicki.* 387, 248, 40-A10 (1992)

The [O I] λλ6300,6364 Doublet of SN 1987A. *Hongwei Li & Richard McCray.* 387, 309, 40-F12 (1992)

On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

N III Line Emission in Planetary Nebulae: Continuum Fluorescence. *G. J. Ferland.* 389, L63, 73-D1 (1992)

Partially Coherent Scattering in Stellar Chromospheres. II. The First-Order Escape Probability Method. *K. G. Gayley.* 390, 573, 82-D8 (1992)

X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)

The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)

Electron Impact Polarization of Atomic Spectral Lines. I. A General Theoretical Scheme. *Silvano Fineschi & Egidio Landi Degl'Innocenti.* 392, 337, 105-B6 (1992)

A Modified Eddington-Barbier Relation in Highly Coherent Resonance-Line Wings. *K. G. Gayley.* 392, 353, 105-C9 (1992)

On the Use of Forbidden Lines as Density Diagnostics in Stratified Media. *Pedro N. Safier.* 392, 492, 108-D5 (1992)

Non-LTE Radiating Acoustic Shocks and Ca II K2V Bright Points. *Mats Carlsson & Robert F. Stein.* 397, L59, 173-G11 (1992)

Angle-dependent Green's Functions for Relativistic Compton Reflection. *Xin-Min Hua & Richard E. Lingenfelter.* 397, 591, 178-D1 (1992)

Inversion of Stokes Profiles. *B. Ruiz Cobo & J. C. del Toro Iniesta.* 398, 375, 186-D11 (1992)

Resonance Scattering of Fe XVII: A Density Diagnostic. *J. T. Schmelz, J. L. R. Saba, & K. T. Strong.* 398, L115, 194-F6 (1992)

LINE: IDENTIFICATION

Detection of HCO^+ $J = 9 \rightarrow 8$ Line Emission toward Orion IRc2: Molecular Ions in Hot Dense Gas. *D. T. Jaffe, U. U. Graf, A. I. Harris, J. Stutzki, & S. H. Lepp.* 385, 240, 14-G13 (1992)

Accurate Far-Infrared Rotational Frequencies of Carbon Monoxide. *Thomas D. Varberg & Kenneth M. Evenson.* 385, 763, 22-E8 (1992)

The Contribution of Methanol to the 3.4 Micron Emission Feature in Comets. *Dennis C. Reuter.* 386, 330, 28-C11 (1992)

Detection of Isocyanoacetylene HCCNC in TMC-1. *Kentarou Kawaguchi, Masatoshi Ohishi, Shin-ichi Ishikawa, & Norio Kaifu.* 386, L51, 36-C10 (1992)

The 3 Micron Spectrum of the Classical Be Star β Monocerotis A. *K. Sellgren & R. G. Smith.* 388, 178, 51-B13 (1992)

Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

The Comet-Tail (*A–X*) System of CO^+: Precise Molecular Constants of Its $X\,^2\Sigma^+$, $A\,^2\Pi_i$, and $B\,^2\Sigma^+$ States. *C. Haridass, C. V. V. Prasad, & S. Paddi Reddy.* 388, 669, 58-E1 (1992)

Improved Laboratory Rest Frequency Measurements and Pressure Shift and Broadening Parameters for the $J = 2 \leftarrow 1$ and $J = 3 \leftarrow 2$ Rotational Transitions of CO. *S. P. Belov, M. Yu. Tretyakov, & R. D. Suenram.* 393, 848, 126-D9 (1992)

Near-Infrared Observations of AFGL 618. II. The Atomic Spectrum. *Douglas M. Kelly, William B. Latter, & G. H. Rieke.* 395, 174, 142-D1 (1992)

The Ultraviolet and Visible Spectrum of the Polycyclic Aromatic Hydrocarbon $C_{10}H_8^+$: Possible Contributions to the Diffuse Interstellar Bands and to the Ultraviolet–Visible Extinction. *F. Salama & L. J. Allamandola.* 395, 301, 143-G9 (1992)

Detection of HNCCC in TMC-1. *Kentarou Kawaguchi, Shuro Takano, Masatoshi Ohishi, Shin-ichi Ishikawa, Keisuke Miyazawa, Norio Kaifu, Koichi Yamashita, Satoshi Yamamoto, Shuji Saito, Yasuhiro Ohshima, & Yasuki Endo.* 396, L49, 161-A1 (1992)

Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)

An Extension of the High-Resolution Millimeter- and Submillimeter-Wave Spectrum of Methanol to High Angular Momentum Quantum Numbers. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 82, 405, 55-A9 (1992)

Detection of the Quadrupole Hyperfine Structure in $HCNH^+$. *L. M. Ziurys, A. J. Apponi, & J. T. Yoder.* 397, L123, 181-F6 (1992)

Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

The Spectrum of the Peculiar WC7+OB Star HD 192641. *Anne B. Underhill.* 398, 636, 192-A10 (1992)

Infrared Spectroscopy of Dense Clouds in the C–H Stretch Region: Methanol and "Diamonds." *L. J. Allamandola, S. A. Sandford, A. G. G. M. Tielens, & T. M. Herbst.* 399, 134, 196-G7 (1992)

Interstellar H_3O^+ and Its Relation to the O_2 and H_2O Abundances. *T. G. Phillips, Ewine F. van Dishoeck, & Jocelyn Keene.* 399, 533, 204-E1 (1992)

Hubble Space Telescope Faint Object Spectrograph and Ground-based Observations of the Broad Absorption Line Quasar 0226–1024. *Kirk T. Korista, Ray J. Weymann, Simon L. Morris, Michael Kopko, Jr., David A. Turnshek, George F. Hartig, Craig B. Foltz, E. Margaret Burbidge, & Vesa T. Junkkarinen.* 401, 529, 229-C1 (1992)

On Ionized Napthalene ($C_{10}H_8^+$) as a Carrier of Diffuse Interstellar Bands. *Theodore P. Snow.* 401, 775, 232-B10 (1992)

LINE: PROFILES

Line Shapes of Rotating Stars with Application to Alpha Lyrae. *G. H. Elste.* 384, 284, 4-D10 (1992)

Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

Fluid Flow in a Jet and the Ca XIX Line Profiles Observed during Solar Flares. *P. L. Bornmann & J. R. Lemen.* 385, 363, 16-D1 (1992)

Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

Balmer Line Profiles for Infalling T Tauri Envelopes. *Nuria Calvet & Lee Hartmann.* 386, 239, 27-B8 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. II. Galaxy Rotation as Virial Parameter. *Mark Whittle.* 387, 109, 38-D2 (1992)

Virial and Jet-induced Velocities in Seyfert Galaxies. III. Galaxy Luminosity as Virial Parameter. *Mark Whittle.* 387, 121, 38-E1 (1992)

Properties of Swept-up Molecular Outflows. *Colin R. Masson & Lawrence M. Chernin.* 387, L47, 43-F1 (1992)

Systematic QSO Emission-Line Velocity Shifts and New Unbiased Redshifts. *David Tytler & Xiao-Ming Fan.* 79, 1, 12-B1 (1992)

What Caused an Unusually Broad He I 10830 Å Emission Line in a Solar Limb Flare? *J. Q. You & G. K. Oertel.* 389, L33, 66-E1 (1992)

Spectral Evolution of Accretion Disks of Dwarf Novae. III. Outburst Cycle of SS Cygni. *F. H. Cheng & D. N. C. Lin.* 389, 714, 70-C5 (1992)

The Broad Emission-Line Profiles and Profile Variability of the Seyfert 1 Galaxy Arakelian 120. *Kirk T. Korista.* 79, 285, 18-C7 (1992)

Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis. *R. K. Prinja, L. A. Balona, C. T. Bolton, R. A. Crowe, M. S. Fieldus, A. W. Fullerton, D. R. Gies, I. D. Howarth, D. McDavid, & A. H. N. Reid.* 390, 266, 77-C6 (1992)

Propagating Absorption Enhancements in the Wind of the Extreme Of Supergiant HD 151804. *A. W. Fullerton, D. R. Gies, & C. T. Bolton.* 390, 650, 83-D1 (1992)

Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)

Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

On the Interpretation of the Spectrum of FU Orionis. *P. P. Petrov & G. H. Herbig.* 392, 209, 103-E1 (1992)

Twin Peaks: IC 4329A and Arakelian 120. *P. Marziani, M. Calvani, & J. W. Sulentic.* 393, 658, 124-A5 (1992)

Line Profile and Variability Data to Probe the Broad-Line Region Geometry: Of Disks and Nests. *F. Mannucci, M. Salvati, & R. M. Stanga.* 394, 98, 129-C6 (1992)

Physical Properties of Be Star Envelopes from Balmer and Fe II Emission Lines. *Arne Slettebak, George W. Collins II, & Ryland Truax.* 81, 335, 39-D13 (1992)

Near-Infrared Broad-Line Profiles in Low-Redshift QSOs. *Keith L. Thompson.* 395, 403, 147-C13 (1992)

Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)

Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)

Resolving the Forbidden-Line Emission Regions of Young Stellar Objects: DD Tauri. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 397, L107, 181-D7 (1992)

Absorption-Line Profiles in a Companion Spectrum of a Mass-losing Cool Supergiant. *Liliya L. Rodrigues & Erika Böhm-Vitense.* 401, 695, 231-B10 (1992)

Coordinated Spectral and Temporal Hα Observations of a Solar Flare. *J.-F. de La Beaujardière, Alan L. Kiplinger, & Richard C. Canfield.* 401, 761, 232-A5 (1992)

New Observations of 5 Minute Oscillations in the Opposite Flanks of Solar Fraunhofer Lines. I. The Effect of Varying the Spectral and Temporal Resolution. *L. Bertello, B. Caccin, P. Francia, & E. Pietropaolo.* 401, 768, 232-B1 (1992)

MAGNETIC FIELDS

Galaxy-driven Turbulence and the Growth of Intracluster Magnetic Fields. *David S. De Young.* 386, 464, 31-B8 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

A True-Field Magnetogram in a Solar Plage Region. *Douglas Rabin.* 390, L103, 85-D1 (1992)

Formation of Very Strongly Magnetized Neutron Stars: Implications for Gamma-Ray Bursts. *Robert C. Duncan & Christopher Thompson.* 392, L9, 106-B7 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

Three-dimensional Magnetic Field Configurations in Relativistic Magnetohydrodynamic Outflows. *Yu-Qing Lou.* 397, L67, 174-A10 (1992)

Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)

MAGNETOHYDRODYNAMICS: MHD

Quasi-static Evolution of Coronal Magnetic Fields. *D. W. Longcope & R. N. Sudan.* 384, 305, 4-F12 (1992)

The Theory of Magnetohydrodynamic Wave Generation by Localized Sources. III. Efficiency of Plasma Heating by Dissipation of Far-Field Waves. *William Collins.* 384, 319, 5-A1 (1992)

Magnetohydrodynamic Equilibria and Cusp Formation at an X-Type Neutral Line by Footpoint Shearing. *G. E. Vekstein & E. R. Priest.* 384, 333, 5-B3 (1992)

Linear Resistive Magnetohydrodynamic Computations of Resonant Absorption of Acoustic Oscillations in Sunspots. *Marcel Goossens & Stefaan Poedts.* 384, 348, 5-C8 (1992)

Microflare Heating of the Galactic Halo. *John C. Raymond.* 384, 502, 8-D1 (1992)

The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

The Practical Application of the Magnetic Virial Theorem. *J. A. Klimchuk, R. C. Canfield, & J. E. Rhoads.* 385, 327, 16-A1 (1992)

Three-dimensional Force-free Magnetic Fields and Flare Energy Buildup. *J. A. Klimchuk & P. A. Sturrock.* 385, 344, 16-B6 (1992)

Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

Prominence Sheets Supported by Constant-Current Force-free Fields. II. Imposition of Normal Photospheric Field Component and Prominence Surface Current. *C. Ridgway, T. Amari, & E. R. Priest.* 385, 718, 22-A10 (1992)

Cylindrically Symmetric Force-free Magnetic Fields. *Lisa J. Porter, James A. Klimchuk, & Peter A. Sturrock.* 385, 738, 22-C6 (1992)

Equilibrium of a Magnetic Flux Tube in a Compressible Flow. *Richard Kerswell & Stephen Childress.* 385, 746, 22-D1 (1992)

Magnetic Interchange Instability of Accretion Disks. *M. Kaisig, T. Tajima, & R. V. E. Lovelace.* 386, 83, 25-B7 (1992)

Accretion in a Kerr Black Hole Magnetosphere: Energy and Angular Momentum Transport between the Magnetic Field and the Matter. *Kouichi Hirotani, Masaaki Takahashi, Shin-ya Nitta, & Akira Tomimatsu.* 386, 455, 31-A11 (1992)

Inhibition of Electron Thermal Conduction by Electromagnetic Instabilities. *Amir Levinson & David Eichler.* 387, 212, 39-E5 (1992)

Large Electric Fields in Acoustic Waves and the Stimulation of Lightning Discharges. *W. Pilipp, T. W. Hartquist, & G. E. Morfill.* 387, 364, 41-D13 (1992)

Weighted Current Sheets Supported in Normal and Inverse Configurations: A Model for Prominence Observations. *P. Démoulin & T. G. Forbes.* 387, 394, 41-G5 (1992)

Energy Propagation into a Flare Kernel during a Solar Flare. *D. B. Melrose.* 387, 403, 42-A1 (1992)

Angular Momentum Transport in Magnetized Stellar Radiative Zones. I. Numerical Solutions to the Core Spin-up Model Problem. *P. Charbonneau & K. B. MacGregor.* 387, 639, 46-E11 (1992)

Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)

Structure of Sunspot Penumbrae: Fallen Magnetic Flux Tubes. *Donat G. Wentzel.* 388, 211, 51-E11 (1992)

A Test Suite for Magnetohydrodynamical Simulations. *James M. Stone, John F. Hawley, Charles R. Evans, & Michael L. Norman.* 388, 415, 55-E1 (1992)

Photon Bubbles: Overstability in a Magnetized Atmosphere. *Jonathan Arons.* 388, 561, 57-C1 (1992)

Alfvén Wave Transmission through the Solar Atmosphere. *Philippe L. Similon & Shahrokh Zargham.* 388, 644, 58-C1 (1992)

Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)

Effect of an Ensemble of Explosions on the Galactic Dynamo. I. General Formulation. *Katia Ferrière.* 389, 286, 63-E1 (1992)

Taylor Relaxation of a Gold-Hoyle Flux Tube. *G. J. Rickard.* 389, 413, 65-A10 (1992)

Magnetohydrodynamic Waves in Sharply and Smoothly Bounded Cylinders. *Bonnie Jean Shulman & Ellen G. Zweibel.* 389, 428, 65-C1 (1992)

Alfvénically Driven Slow Shocks in the Solar Chromosphere and Corona. *Joseph V. Hollweg.* 389, 731, 70-D10 (1992)

High-Energy Gamma-Ray Emission from Pion Decay in a Solar Flare Magnetic Loop. *Natalie Mandzhavidze & Reuven Ramaty.* 389, 739, 70-E6 (1992)

Steady Siphon Flows in Closed Coronal Structures: Comparison with Extreme-Ultraviolet Observations. *G. Peres, D. Spadaro, & G. Noci.* 389, 777, 71-A8 (1992)

Intrinsically Asymmetric Astrophysical Jets. *J. C. L. Wang, M. E. Sulkanen, & R. V. E. Lovelace.* 390, 46, 74-F1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results

and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

Solar Active Regions as a Percolation Phenomenon. *Donat G. Wentzel & Philip E. Seiden.* 390, 280, 77-D10 (1992)

Vortex Attraction and the Formation of Sunspots. *E. N. Parker.* 390, 290, 77-E8 (1992)

A Self-consistent Turbulent Model for Solar Coronal Heating. *J. Heyvaerts & E. R. Priest.* 390, 297, 77-F3 (1992)

On the Origin of Cosmological Magnetic Fields. *T. Tajima, S. Cable, K. Shibata, & R. M. Kulsrud.* 390, 309, 79-B1 (1992)

Switch Shocks in Molecular Clouds. I. Plane-parallel Magnetohydrodynamic Analysis. *Michael D. Smith.* 390, 447, 81-A1 (1992)

Nonresonant Resistive Dissipation of Compressible Magnetohydrodynamic Waves. *Francesco Califano, Claudio Chiuderi, & Giorgio Einaudi.* 390, 560, 82-C8 (1992)

Self-similar Magnetohydrodynamics. V. Gravitating Spheres and Spheroids. *B. C. Low.* 390, 567, 82-D1 (1992)

Magnetic Reconnection in Incompressible Fluids. *Edward E. DeLuca & Ian J. D. Craig.* 390, 679, 83-F7 (1992)

Effect of the Explosion of Supernovae and Superbubbles on the Galactic Dynamo. *Katia Ferrière.* 391, 188, 88-C13 (1992)

Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

Energy Buildup in Sheared Force-free Magnetic Fields. *Richard Wolfson & Boon Chye Low.* 391, 353, 90-C6 (1992)

The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

The Conversion of p-Modes to Slow Modes and the Absorption of Acoustic Waves by Sunspots. *H. C. Spruit & T. J. Bogdan.* 391, L109, 100-B7 (1992)

On Neutralized Currents in the Solar Corona. *Ladye Kathryn Wilkinson, A. Gordon Emslie, & G. Allen Gary.* 392, L39, 106-E7 (1992)

Large-Scale Rotational Perturbations of a Friedmann Universe with Collisionless Matter and Primordial Magnetic Fields. *Anton Rebhan.* 392, 385, 107-B6 (1992)

Self-similar Evolution of Magnetized Plasmas. I. Quasi-static Solution. *Wei-Hong Yang.* 392, 465, 108-B1 (1992)

Initiation of Bipolar Flows by Magnetic Field Twisting in Protostellar Nebulae. *William I. Newman, Alice L. Newman, & Richard V. E. Lovelace.* 392, 622, 110-A1 (1992)

The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)

Two-dimensional Slow Shock Reconnection. *Y. C. Whang.* 392, 637, 110-B9 (1992)

Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

Is the Oort A-Value a Universal Growth Rate Limit for Accretion Disk Shear Instabilities? *Steven A. Balbus & John F. Hawley.* 392, 662, 110-D12 (1992)

A Regularization Method for Extrapolation of Solar Potential Magnetic Fields. *G. Allen Gary & Z. E. Musielak.* 392, 722, 111-C1 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. I. The Hydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 753, 33-G3 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. II. The Magnetohydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 791, 34-C5 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. III. The Radiation Hydrodynamic Algorithms and Tests. *James M. Stone, Dimitri Mihalas, & Michael L. Norman.* 80, 819, 34-E11 (1992)

Nonlinear Restrictions on Dynamo Action. *Samuel I. Vainshtein & Fausto Cattaneo.* 393, 165, 116-B5 (1992)

Fast Dynamic Reconnection at X-Type Neutral Points. *I. J. D. Craig & P. G. Watson.* 393, 385, 118-G11 (1992)

Coronal Loops: Current-based Heating Processes. *P. Beaufumé, B. Coppi, & L. Golub.* 393, 396, 119-A11 (1992)

Swinging Spiral Waves and Alfvén Turbulence in Accretion Disks. *M. Tagger, R. Pellat, & F. V. Coroniti.* 393, 708, 124-F1 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. I. Interaction with Parallel Transverse Cold Plasma Waves. *Jürgen Steinacker & James A. Miller.* 393, 764, 125-C10 (1992)

Fast Plasmoid Formation in Double Arcades. *J. M. Finn, P. N. Guzdar, & J. Chen.* 393, 800, 125-G7 (1992)

Giant Molecular Cloud Formation through the Parker Instability in a Skewed Magnetic Field. *Tomoyuki Hanawa, Ryoji Matsumoto, & Kazunari Shibata.* 393, L71, 127-E1 (1992)

Hydromagnetic Disk Winds in Young Stellar Objects and Active Galactic Nuclei. *Guy Pelletier & Ralph E. Pudritz.* 394, 117, 129-D13 (1992)

Dissipation of Magnetic Energy in the Solar Corona. *Allen H. Boozer.* 394, 357, 132-D4 (1992)

Electromagnetically Driven Relativistic Jets: A Class of Self-similar Solutions. *Zhi-Yun Li, Tzihong Chiueh, & Mitchell C. Begelman.* 394, 459, 135-B1 (1992)

The Formation of Magnetic Cavities in Comets. *Z. Klopman, A. Eviatar, & R. Goldstein.* 394, 652, 137-E10 (1992)

Development of Magnetohydrodynamic Turbulence in Coronal Loops. *Daniel O. Gómez & Constantino Ferro Fontán.* 394, 662, 137-F8 (1992)

Effect of Magnetic Helicity upon Rectilinear Propagation of Charged Particles in Random Magnetic Fields. *James A. Earl.* 395, 185, 142-E1 (1992)

The Velocity-Distance Relation for Galaxies on a Bubble. *Gregory D. Bothun, Margaret J. Geller, Michael J. Kurtz, John P. Huchra, & Rudolph E. Schild.* 395, 347, 146-E5 (1992)

Hydrodynamics of the Hot Component of the Galactic Halo. II. Radiative and Dynamical Instabilities. *A. Ferrara & G. Einaudi.* 395, 475, 148-D9 (1992)

Magnetized Stimulated Scattering in Pulsar Winds. *Mark W. Sincell & Julian H. Krolik.* 395, 553, 149-F7 (1992)

On the Process of Resistive Heating Instability and the Formation of Coronal Loop Structures. *Yu-Qing Lou.* 395, 682, 151-F13 (1992)

Enhanced Damping of Alfvén Waves in the Solar Corona by a Turbulent Wave Spectrum. *Robert G. Kleva & J. F. Drake.* 395, 697, 152-A5 (1992)

The Thermal and Plasma-physical Evolution of Laminar Current Sheets Formed in the Solar Atmosphere by Emerging Flux. *T. N. LaRosa.* 396, 289, 158-F3 (1992)

Incompressible Disturbances in Nonuniform Media: Formation of Small Scales. *Francesco Malara, Pierluigi Veltri, Claudio Chiuderi, & Giorgio Einaudi.* 396, 297, 158-F13 (1992)

The Influence of a Vertical Magnetic Field on Oscillations in an Isothermal Stratified Atmosphere. *S. S. Hasan & J. Christensen-Dalsgaard.* 396, 311, 159-A1 (1992)

Multiple Periodicities in the Solar Magnetic Field: Possible Origin in a Multiple-Mode Solar Dynamo. *D. W. Boyer & E. H. Levy.* 396, 340, 159-C6 (1992)

The Spectrum of Random Magnetic Fields in the Mean Field Dynamo Theory of the Galactic Magnetic Field. *Russell M. Kulsrud & Stephen W. Anderson.* 396, 606, 165-A1 (1992)

An Axisymmetric Magnetohydrodynamic Model for the Crab Pulsar Wind Bubble. *Mitchell C. Begelman & Zhi-yun Li.* 397, 187, 170-C11 (1992)

Steady and Nonsteady Siphon Flow in Hot Coronal Loops. *T. D. Robb & P. S. Cally.* 397, 329, 172-A1 (1992)

The Galactic Center Wind. *Roger A. Chevalier.* 397, L39, 173-E12 (1992)

A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

Three-dimensional Magnetic Field Configurations in Relativistic Magnetohydrodynamic Outflows. *Yu-Qing Lou.* 397, L67, 174-A10 (1992)

Local Magnetohydrodynamic Instabilities and the Wave-driven Dynamo in Accretion Disks. *Ethan T. Vishniac & Patrick Diamond.* 398, 561, 191-B5 (1992)

Reconnection of Stressed Magnetic Fields. *A. B. Hassam.* 399, 159, 197-B10 (1992)

Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. II. Implications of Thermal Effects in a Solar Flare Plasma. *James A. Miller & Jürgen Steinacker.* 399, 284, 198-F12 (1992)

Helioseismology Data and the Solar Dynamo. *P. R. Wilson.* 399, 294, 198-G11 (1992)

Three-dimensional Structures of Magnetostatic Atmospheres. IV. Magnetic Structures over a Solar Active Region. *B. C. Low.* 399, 300, 199-A6 (1992)

Spatial Stability of the Magnetized Slab Jet. *Philip E. Hardee, Michael A. Cooper, Michael L. Norman, & James M. Stone.* 399, 478, 203-G11 (1992)

Diagnostics of Electron-heated Solar Flare Models. III. Effects of Tapered Loop Geometry and Preheating. *A. Gordon Emslie, Peng Li, & John T. Mariska.* 399, 714, 206-G7 (1992)

Nonlinear Dissipation of Surface Alfvén Waves in the Solar Corona. *M. S. Ruderman.* 399, 724, 207-A5 (1992)

Formation of the Dark Bays in the Crab Optical Synchrotron Nebula: Is the Crab Pulsar Wind Bubble Interacting with Its Progenitor's Wind? *Zhi-Yun Li & Mitchell C. Begelman.* 400, 186, 211-C1 (1992)

A Parameter Study of the Two-Fluid Solar Wind. *Ørnulf Sandbæk, Egil Leer, & Thomas E. Holzer.* 400, 362, 213-D8 (1992)

Magnetohydrodynamic Waves in a Solar Prominence. *R. Oliver, J. L. Ballester, A. W. Hood, & E. R. Priest.* 400, 369, 213-E1 (1992)

On the Amplification of Large-Scale Magnetic Fields in Spiral Galaxies by Galactic Winds. *S. J. Spencer & L. E. Cram.* 400, 484, 216-C12 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. III. Long-Term Evolution in a Shearing Sheet. *John F. Hawley & Steven A. Balbus.* 400, 595, 217-F12 (1992)

A Powerful Local Shear Instability in Weakly Magnetized Disks. IV. Nonaxisymmetric Perturbations. *Steven A. Balbus & John F. Hawley.* 400, 610, 218-A1 (1992)

Magnetohydrodynamic Wave Damping by Cosmic-Ray Viscosity. *Ahmed Boulares & Gregor Morfill.* 400, 622, 218-B6 (1992)

Magnetohydrodynamic Models for Extragalactic Jets. I. General Method Based on Conservation Laws. *Paola Pietrini & Guidetta Torricelli-Ciamponi.* 401, 60, 221-G1 (1992)

Fast Dynamos, Cosmic Rays, and the Galactic Magnetic Field. *E. N. Parker.* 401, 137, 222-F7 (1992)

Forced Reconnection, Current Sheets, and Coronal Heating. *Xiaogang Wang & A. Bhattacharjee.* 401, 371, 225-F1 (1992)

High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

MASERS

The Zeeman Effect in Astrophysical Water Masers and the Observation of Strong Magnetic Fields in Regions of Star Formation. *Gerald E. Nedoluha & William D. Watson.* 384, 185, 3-C5 (1992)

The Distribution of the 6_2–6_1 and 5_2–5_1 *E*-Type Methanol Masers in OMC-1. *K. J. Johnston, R. Gaume, S. Stolovy, T. L. Wilson, C. M. Walmsley, & K. M. Menten.* 385, 232, 14-G3 (1992)

Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

A Survey of CS $J = 7 \rightarrow 6$ in Regions of Massive Star Formation. *René Plume, D. T. Jaffe, & Neal J. Evans II.* 78, 505, 9-F5 (1992)

Are the NGC 7538 Formaldehyde Masers Really Unusual? *Preethi Pratap, Lewis E. Snyder, & Wolfgang Batrla.* 387, 241, 40-A1 (1992)

Time Variations in Millimeter-Wave Radio Recombination Lines from the Be Star MWC 349A. *M. A. Gordon.* 387, 701, 47-D5 (1992)

Radiative Instabilities and 1000 Second Fluctuations in Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 387, L73, 48-C10 (1992)

Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)

1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras. *Alan J. Collison & John D. Fix.* 390, 191, 76-C13 (1992)

Discovery of Bipolar OH Maser Emission from the High-Latitude Supergiant Star HD 101584. *P. te Lintel Hekkert, J. M. Chapman, & A. A. Zijlstra.* 390, L23, 78-D9 (1992)

Location of the Dust Formation Region for Mira Variables. *P. F. Bowers.* 390, L27, 78-E1 (1992)

VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 392, 249, 104-A9 (1992)

The Powering Sources of the Molecular Outflows in the AFGL 437, AFGL 5142, and AFGL 5157 Regions. *José M. Torrelles, José F. Gómez, Guillem Anglada, Robert Estalella, Rainer Mauersberger, & Carlos Eiroa.* 392, 616, 109-G9 (1992)

Distance and Kinematics of the W49N H_2O Maser Outflow. *C. R. Gwinn, J. M. Moran, & M. J. Reid.* 393, 149, 116-A1 (1992)

Water Masers in W49N—The Youngest Stellar Jet? *Mordecai-Mark Mac Low & Moshe Elitzur.* 393, L33, 120-E6 (1992)

Problems with the Standard Theory of Three-dimensional Masers. *David A. Neufeld.* 393, L37, 120-F1 (1992)

Planar H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 394, 221, 130-F10 (1992)

OH/IR Star Color Mimics. *B. M. Lewis.* 396, 251, 158-B13 (1992)

Mid-Infrared Imaging of Orion BN/KL: Astrometry of IRc2 and the SiO Maser. *Daniel Y. Gezari.* 396, L43, 160-G8 (1992)

Interstellar Scattering toward the Galactic Center as Probed by OH/IR Stars. *Huib Jan van Langevelde, Dale A. Frail, James M. Cordes, & Philip J. Diamond.* 396, 686, 165-G9 (1992)

IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

The Detection of a New, Nonmasing Transition of Methanol at 28.3 GHz. *V. I. Slysh, S. V. Kalenskii, & I. E. Val'tts.* 397, L43, 173-F3 (1992)

On the Nature of the Bipolar Molecular Outflow in AFGL 437. *J. F. Gómez, J. M. Torrelles, R. Estalella, G. Anglada, L. Verdes-Montenegro, & P. T. P. Ho.* 397, 492, 177-A1 (1992)

Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

Modeling SiO Maser Emission from Late-Type Stars. *Philip Lockett & Moshe Elitzur.* 399, 704, 206-F9 (1992)

Interacting H_2O Masers in Star-forming Regions. *Nikolaos D. Kylafis & Konstantinos G. Pavlakis.* 400, 344, 213-B12 (1992)

Rapid Time Variations and Radiative Instabilities of Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 400, 351, 213-C7 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

High-Excitation ^{29}SiO and ^{30}SiO Maser Emission. *J. Cernicharo & V. Bujarrabal.* 401, L109, 233-E5 (1992)

METEOROIDS

Large Electric Fields in Acoustic Waves and the Stimulation of Lightning Discharges. *W. Pilipp, T. W. Hartquist, & G. E. Morfill.* 387, 364, 41-D13 (1992)

Zodiacal Emission. III. Dust near the Asteroid Belt. *William T. Reach.* 392, 289, 104-E7 (1992)

SiC Particles from Asymptotic Giant Branch Stars: Mg Burning and the *s*-Process. *Lawrence E. Brown & Donald D. Clayton.* 392, L79, 113-E1 (1992)

^{26}Al and Time Scales of the Solar Nebula. *Kurt Lifman.* 398, L111, 194-F1 (1992)

Nonequilibrium Iron Oxide Formation in Some Low-Mass Post–Asymptotic Giant Branch Stars. *Frans J. M. Rietmeijer.* 400, L39, 214-E6 (1992)

METHODS: ANALYTICAL

A Topological/Geometrical Approach to the Study of Astrophysical Maps. *Fred C. Adams.* 387, 572, 45-G1 (1992)

On the Error Estimates of Correlation Functions. *H. J. Mo, Y. P. Jing, & G. Börner.* 392, 452, 107-G13 (1992)

The Potential Energy Tensors for Subsystems. *R. Caimmi & L. Secco.* 395, 119, 141-E11 (1992)

Stability of Scale-invariant Nonlinear Gravitational Clustering. *Laddawan Ruamsuwan & J. N. Fry.* 396, 416, 162-F1 (1992)

Confusion Noise and Source Clustering. *X. Barcons.* 396, 460, 163-B11 (1992)

First-Order Fermi Acceleration in Spherically Symmetric Flows: Solutions Including Quadratic Losses. *Peter A. Becker.* 397, 88, 169-B6 (1992)

Methods of Periodicity Analysis: Relationship between the Rayleigh Analysis and a Maximum Likelihood Method. *T. Bai.* 397, 584, 178-C6 (1992)

Angle-dependent Green's Functions for Relativistic Compton Reflection. *Xin-Min Hua & Richard E. Lingenfelter.* 397, 591, 178-D1 (1992)

A New Method for the Detection of a Periodic Signal of Unknown Shape and Period. *P. C. Gregory & Thomas J. Loredo.* 398, 146, 183-F11 (1992)

Interpolation, Realization, and Reconstruction of Noisy, Irregularly Sampled Data. *George B. Rybicki & William H. Press.* 398, 169, 184-A7 (1992)

Void Probability Function in the Southern Sky Redshift Survey. *Marc Lachièze-Rey, Luiz Nicolaci da Costa, & Sophie Maurogordato.* 399, 10, 195-B13 (1992)

An Efficient Method for the Calculation of Mean Extinction. I. The Analyticity of the Complex Extinction Efficiency of Homogeneous Spheres. *Zhang-fan Xing & J. Mayo Greenberg.* 399, 164, 197-C3 (1992)

METHODS: DATA ANALYSIS

A Topological/Geometrical Approach to the Study of Astrophysical Maps. *Fred C. Adams.* 387, 572, 45-G1 (1992)

On the Ultimate Accuracy of Solar Oscillation Frequency Measurements. *K. G. Libbrecht.* 387, 712, 47-E7 (1992)

Interpolation, Realization, and Reconstruction of Noisy, Irregularly Sampled Data. *George B. Rybicki & William H. Press.* 398, 169, 184-A7 (1992)

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

METHODS: NUMERICAL

Relaxation-driven Binary Mergers. *Sergio Gelato, David F. Chernoff, & Ira Wasserman.* 384, 15, 1-C1 (1992)

Ambiguities in the Identification of Giant Molecular Cloud Complexes from Longitude-Velocity Diagrams. *David S. Adler & William W. Roberts, Jr.* 384, 95, 2-B12 (1992)

The Inverse Planckian Transform and Temperature Spectra. *Luis Salas.* 385, 288, 15-D12 (1992)

The Time Delay of Gravitational Lens 0957+561. I. Methodology and Analysis of Optical Photometric Data. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 404, 18-C4 (1992)

The Time Delay of Gravitational Lens 0957+561. II. Analysis of Radio Data and Combined Optical-Radio Analysis. *William H. Press, George B. Rybicki, & Jacqueline N. Hewitt.* 385, 416, 18-D4 (1992)

Numerical Simulations of Hydrodynamical Jets Crossing a Galactic Halo/Intracluster Medium Interface. *Paul J. Wiita & Michael L. Norman.* 385, 478, 19-B7 (1992)

Gravitational Clustering of Galaxies: Comparison between Thermodynamic Theory and *N*-Body Simulations. III. Velocity Distributions for Different Mass Components. *Shogo Inagaki, Makoto Itoh, & William C. Saslaw.* 386, 9, 24-B10 (1992)

Caustic-induced Features in Microlensing Magnification Probability Distributions. *Kevin P. Rauch, Shude Mao, Joachim Wambsganss, & Bohdan Paczyński.* 386, 30, 24-D10 (1992)

A Self-consistent Field Method for Galactic Dynamics. *Lars Hernquist & Jeremiah P. Ostriker.* 386, 375, 30-B6 (1992)

Optical and Radio Variability in Blazars. *Beth R. Hufnagel & Joel N. Bregman.* 386, 473, 31-C5 (1992)

On the Sensitivity of the *N*-Body Problem to Small Changes in Initial Conditions. II. *Henry E. Kandrup & Haywood Smith, Jr.* 386, 635, 33-C1 (1992)

A Hydrodynamic Approach to Cosmology: Methodology. *Renyue Cen.* 78, 341, 7-B1 (1992)

The Topology of Large-Scale Structure. VI. Slices of the Universe. *Changbom Park, J. Richard Gott III, Adrian L. Melott, & I. D. Karachentsev.* 387, 1, 37-A11 (1992)

Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)

Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)

Large-Scale Structure in Isocurvature Baryon Models. *Tatsushi Suginohara & Yasushi Suto.* 387, 431, 44-B1 (1992)

A Topological/Geometrical Approach to the Study of Astrophysical Maps. *Fred C. Adams.* 387, 572, 45-G1 (1992)

Angular Momentum Transport in Magnetized Stellar Radiative Zones. I. Numerical Solutions to the Core Spin-up Model Problem. *P. Charbonneau & K. B. MacGregor.* 387, 639, 46-E11 (1992)

Wavelet Analysis of Subclustering: An Illustration, Abell 754. *Eric Escalera & Alain Mazure.* 388, 23, 49-C12 (1992)

Time Variability Studies with Photon-counting Imaging Detectors. I. A Maximum Likelihood Technique. *S. Sciortino & G. Micela.* 388, 595, 57-E11 (1992)

The GDDSYN Light Curve Synthesis Method. *Paul D. Hendry & Stefan W. Mochnacki.* 388, 603, 57-F7 (1992)

Clustering of Galaxy Clusters. I. Is the Spatial Cluster-Cluster Correlation Function Enhanced Significantly by Contaminations? *Yi-Peng Jing, Manolis Plionis, & Riccardo Valdarnini.* 389, 499, 67-F3 (1992)

Three-dimensional Hydrodynamical Simulations of Colliding Stars. III. Collisions and Tidal Captures of Unequal-Mass Main-Sequence Stars. *W. Benz & J. G. Hills.* 389, 546, 68-C8 (1992)

Cooling and the Longevity of Polar Rings. *Neal Katz & Hans-Walter Rix.* 389, L55, 73-C3 (1992)

The Three-dimensional Interaction of a Supernova Remnant with an Interstellar Cloud. *James M. Stone & Michael L. Norman.* 390, L17, 78-C11 (1992)

Cluster Correlations from *N*-Point Correlation Amplitudes. *I. Szapudi, A. S. Szalay, & P. Boschán.* 390, 350, 79-E7 (1992)

Application of the Improved Hartle Method for the Construction of General Relativistic Rotating Neutron Star Models. *F. Weber & N. K. Glendenning.* 390, 541, 82-B1 (1992)

Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

The Rate of Gravitational Galaxy Clustering. *William C. Saslaw.* 391, 423, 93-B4 (1992)

Tracing Large-Scale Fluctuations Back in Time. *Adi Nusser & Avishai Dekel.* 391, 443, 93-D4 (1992)

Statistics of Pencil Beams in Voronoi Foams. *Mark U. SubbaRao & Alexander S. Szalay.* 391, 483, 93-G12 (1992)

A General Analytical Solution to the Problem of Malmquist Bias Due to Lognormal Distance Errors. *Stephen D. Landy & Alexander S. Szalay.* 391, 494, 94-A11 (1992)

Dissipational Galaxy Formation. II. Effects of Star Formation. *Neal Katz.* 391, 502, 94-B7 (1992)

Time Series Analysis in Astronomy: An Application to Quasar Variability Studies. *R. Vio, S. Cristiani, O. Lessi, & A. Provenzale.* 391, 518, 94-D5 (1992)

On the Error Estimates of Correlation Functions. *H. J. Mo, Y. P. Jing, & G. Börner.* 392, 452, 107-G13 (1992)

Catalog-to-Catalog Reductions: Results for the FK, N30, and GC Catalogs. *L. G. Taff, B. Bucciarelli, & M. G. Lattanzi.* 392, 746, 111-E9 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. III. A Finite-Element Code for Solving Nonradial Pulsation Equations. *P. Brassard, C. Pelletier, G. Fontaine, & F. Wesemael.* 80, 725, 33-D11 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. I. The Hydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 753, 33-G3 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. II. The Magnetohydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 791, 34-C5 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. III. The Radiation Hydrodynamic Algorithms and Tests. *James M. Stone, Dimitri Mihalas, & Michael L. Norman.* 80, 819, 34-E11 (1992)

Statistical Methods for Investigating Periodicities in Double-Galaxy Redshifts. *W. J. Cocke.* 393, 59, 114-G1 (1992)

The Void Spectrum in Two-dimensional Numerical Simulations of Gravitational Clustering. *Guinevere Kauffmann & Adrian L. Melott.* 393, 415, 121-B1 (1992)

The Three-Point Function in an Ensemble of Numerical Simulations. *J. N. Fry, Adrian L. Melott, & Sergei F. Shandarin.* 393, 431, 121-C5 (1992)

Percolation Analysis of Nonlinear Structures in Scale-free Two-dimensional Simulations. *Kurt G. Dominik & Sergei F. Shandarin.* 393, 450, 121-E1 (1992)

Transformations of Galaxies. I. Mergers of Equal-Mass Stellar Disks. *Joshua E. Barnes.* 393, 484, 121-G9 (1992)

Off-Center Nuclei in Galaxies. *R. H. Miller & B. F. Smith.* 393, 508, 122-B7 (1992)

Three-dimensional Hydrodynamic Simulations of Narrow-Angle–Tail Radio Sources. I. The Begelman, Rees, and Blandford Model. *Dinshaw S. Balsara & Michael L. Norman.* 393, 631, 123-F3 (1992)

Predicting Wolf's Sunspot Numbers with and without the Assumption of Periodicity. *Patricia B. Cerrito.* 393, 795, 125-G1 (1992)

Large-Scale Radial Velocity Correlations as a Test of Gaussian Initial Conditions. *Stephen D. Landy & Alexander S. Szalay.* 394, 25, 128-D1 (1992)

Higher Order Correlations of *IRAS* Galaxies. *Avery Meiksin, Istvan Szapudi, & Alexander Szalay.* 394, 87, 129-B6 (1992)

The Mass Function of Galaxy Halos in a Cold Dark Matter Universe. *T. G. Brainerd & J. V. Villumsen.* 394, 409, 134-D5 (1992)

Multifractal Properties of Cosmological *N*-Body Simulations. *Riccardo Valdarnini, Stefano Borgani, & Antonello Provenzale.* 394, 422, 134-E7 (1992)

The Angular Three-Point Function of Galaxy Clusters. *Stefano Borgani, Yipeng Jing, & Manolis Plionis.* 395, 339, 146-D5 (1992)

Properties of Galactic Halos in Spatially Flat Universes Dominated by Cold Dark Matter: Effects of Nonvanishing Cosmological Constant. *Tatsushi Suginohara & Yasushi Suto.* 396, 395, 162-C11 (1992)

Stability of Scale-invariant Nonlinear Gravitational Clustering. *Laddawan Ruamsuwan & J. N. Fry.* 396, 416, 162-F1 (1992)

Confusion Noise and Source Clustering. *X. Barcons.* 396, 460, 163-B11 (1992)

Linear Regression in Astronomy. II. *Eric D. Feigelson & Gutti Jogesh Babu.* 397, 55, 168-F9 (1992)

Two-dimensional Viscous Accretion Disk Models. I. On Meridional Circulations in Radiative Regions. *W. Kley & D. N. C. Lin.* 397, 600, 178-D13 (1992)

Clustering of Galaxy Clusters. II. Rare Events in the Cluster Distribution. *Manolis Plionis, Riccardo Valdarnini, & Yi-Peng Jing.* 398, 12, 182-C1 (1992)

A New Method for the Detection of a Periodic Signal of Unknown Shape and Period. *P. C. Gregory & Thomas J. Loredo.* 398, 146, 183-F11 (1992)

Interpolation, Realization, and Reconstruction of Noisy, Irregularly Sampled Data. *George B. Rybicki & William H. Press.* 398, 169, 184-A7 (1992)

Mass Segregation, Relaxation, and the Coulomb Logarithm in *N*-Body Systems. *Haywood Smith, Jr.* 398, 519, 190-E10 (1992)

Determining the Nuclear Equation of State from Neutron-Star Masses and Radii. *Lee Lindblom.* 398, 569, 191-C1 (1992)

Galaxy Clusters and Cold Dark Matter: A Low-Density Unbiased Universe? *Neta A. Bahcall & Renyue Cen.* 398, L81, 194-B6 (1992)

Mass Transfer and Loss in Interacting Disk Galaxies. *J. F. Wallin & B. V. Stuart.* 399, 29, 195-D10 (1992)

An Efficient Method for the Calculation of Mean Extinction. I. The Analyticity of the Complex Extinction Efficiency of Homogeneous Spheres. *Zhang-fan Xing & J. Mayo Greenberg.* 399, 164, 197-C3 (1992)

Filamentary and Hierarchical Pictures: Kinetic Energy Criterion. *Anatoly A. Klypin & Adrian L. Melott.* 399, 397, 203-A1 (1992)

Dark Halos Formed via Dissipationless Collapse. I. Shapes and Alignment of Angular Momentum. *Michael S. Warren, Peter J. Quinn, John K. Salmon, & Wojciech H. Zurek.* 399, 405, 203-A11 (1992)

On the Sensitivity of the *N*-Body Problem to Small Changes in Initial Conditions. III. *Henry E. Kandrup, Haywood Smith, Jr., & David E. Willmes.* 399, 627, 205-F9 (1992)

Diagnostics of Electron-heated Solar Flare Models. III. Effects of Tapered Loop Geometry and Preheating. *A. Gordon Emslie, Peng Li, & John T. Mariska.* 399, 714, 206-G7 (1992)

Bar-Spheroid Interaction in Galaxies. *Lars Hernquist & Martin D. Weinberg.* 400, 80, 210-A6 (1992)

Models of Star Formation in Interacting and Merging Disk Galaxies. *J. Christopher Mihos, Douglas O. Richstone, & Gregory D. Bothun.* 400, 153, 210-G4 (1992)

A Parameter Study of the Two-Fluid Solar Wind. *Ørnulf Sandbæk, Egil Leer, & Thomas E. Holzer.* 400, 362, 213-D8 (1992)

The Scaling Analysis as a Tool to Compare *N*-Body Simulations with Observations: Application to a Low-Bias Cold Dark Matter Model. *G. Yepes, R. Domínguez-Tenreiro, & H. M. P. Couchman.* 401, 40, 221-E3 (1992)

Enhancement of Diffusive Transport in Oscillatory Flows. *E. Knobloch & W. J. Merryfield.* 401, 196, 223-E3 (1992)

A Simple Multifractal Model of Nonlinear Gravitational Clustering. *Antonello Provenzale, Piero Galeotti, Giuseppe Murante, & Barbara Villone.* 401, 455, 228-D1 (1992)

LensClean: An Algorithm for Inverting Extended, Gravitationally Lensed Images with Application to the Radio Ring Lens PKS 1830−211. *Christopher S. Kochanek & Ramesh Narayan.* 401, 461, 228-D8 (1992)

METHODS: STATISTICAL

Time Variability Studies with Photon-counting Imaging Detectors. I. A Maximum Likelihood Technique. *S. Sciortino & G. Micela.* 388, 595, 57-E11 (1992)

Transient Periodicities in X-Ray–active Red Dwarfs: First Results from Mount Cuba and Interpretation with an Oscillating Loop Model. *D. J. Mullan, R. B. Herr, & S. Bhattacharyya.* 391, 265, 89-C1 (1992)

A Simple Test of Independence for Truncated Data with Applications to Redshift Surveys. *Bradley Efron & Vahé Petrosian.* 399, 345, 202-C1 (1992)

COBE Differential Microwave Radiometers: Preliminary Systematic Error Analysis. *A. Kogut, G. F. Smoot, C. L. Bennett, E. L. Wright, J. Aymon, G. De Amici, G. Hinshaw, P. D. Jackson, E. Kaita, P. Keegstra, C. Lineweaver, K. Loewenstein, L. Rokke, L. Tenorio, N. W. Boggess, E. S. Cheng, S. Gulkis, M. G. Hauser, M. A. Janssen, T. Kelsall, J. C. Mather, S. Meyer, S. H. Moseley, T. L. Murdock, R. A. Shafer, R. F. Silverberg, R. Weiss, & D. T. Wilkinson.* 401, 1, 221-B1 (1992)

MINOR PLANETS

Collision and Tidal Interaction between Planetesimals. *Sei-ichiro Watanabe & Shoken M. Miyama.* 391, 318, 89-G11 (1992)

Zodiacal Emission. III. Dust near the Asteroid Belt. *William T. Reach.* 392, 289, 104-E7 (1992)

MOLECULAR DATA

Temperature Dependence of Infrared Bands Produced by Polycyclic Aromatic Hydrocarbons. *L. Colangeli, V. Mennella, & E. Bussoletti.* 385, 577, 20-C10 (1992)

Accurate Far-Infrared Rotational Frequencies of Carbon Monoxide. *Thomas D. Varberg & Kenneth M. Evenson.* 385, 763, 22-E8 (1992)

The Rotational Spectrum of the Carbon Chain Radical HCCCO. *A. L. Cooksy, J. K. G. Watson, C. A. Gottlieb, & P. Thaddeus.* 386, L27, 29-D7 (1992)

The Comet-Tail (A–X) System of CO^+: Precise Molecular Constants of Its $X\,^2\Sigma^+$, $A\,^2\Pi_i$, and $B\,^2\Sigma^+$ States. *C. Haridass, C. V. V. Prasad, & S. Paddi Reddy.* 388, 669, 58-E1 (1992)

Thermal Emission Spectra from Polycyclic Aromatic Hydrocarbon Molecules of Astrophysical Interest. *V. Mennella, L. Colangeli, & E. Bussoletti.* 391, L45, 92-D1 (1992)

Submillimeter Spectrum of Low-Temperature Hydrogen: The Pure Translational Band of H_2 and the $R(0)$ Line of HD. *E. H. Wishnow, I. Ozier, & H. P. Gush.* 392, L43, 106-F1 (1992)

Improved Laboratory Rest Frequency Measurements and Pressure Shift and Broadening Parameters for the $J = 2 \leftarrow 1$ and $J = 3 \leftarrow 2$ Rotational Transitions of CO. *S. P. Belov, M. Yu. Tretyakov, & R. D. Suenram.* 393, 848, 126-D9 (1992)

Contribution of Polycyclic Aromatic Hydrocarbon Molecules to the Interstellar Extinction Curve. *C. Joblin, A. Léger, & P. Martin.* 393, L79, 127-F1 (1992)

Polycyclic Aromatic Hydrocarbons and Molecular Equilibria in Carbon-rich Stars. *Isabelle Cherchneff & John R. Barker.* 394, 703, 138-C4 (1992)

The Ultraviolet and Visible Spectrum of the Polycyclic Aromatic Hydrocarbon $C_{10}H_8^+$: Possible Contributions to the Diffuse Interstellar Bands and to the Ultraviolet–Visible Extinction. *F. Salama & L. J. Allamandola.* 395, 301, 143-G9 (1992)

High-Resolution Photoabsorption Cross Sections of $E^1\Pi$–$X^1\Sigma^+$ Vibrational Bands of ^{12}CO and ^{13}CO. *G. Stark, P. L. Smith, K. Ito, & K. Yoshino.* 395, 705, 152-B5 (1992)

Radiative Lifetimes of the CN ($A^2\Pi_i$) Electronic State. *Richang Lu, Yuhui Huang, & Joshua B. Halpern.* 395, 710, 152-C1 (1992)

Raman and Infrared Spectra of Polycyclic Aromatic Hydrocarbon Molecules of Possible Astrophysical Interest. *L. Colangeli, V. Mennella, G. A. Baratta, E. Bussoletti, & G. Strazzulla.* 396, 369, 159-F5 (1992)

An Extension of the High-Resolution Millimeter- and Submillimeter-Wave Spectrum of Methanol to High Angular Momentum Quantum Numbers. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 82, 405, 55-A9 (1992)

Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

Theoretical Vibration-Rotation Spectrum of Si_2C. *W. Gabriel, G. Chambaud, P. Rosmus, A. Spielfiedel, & N. Feautrier.* 398, 706, 192-G7 (1992)

Microwave Spectra and Electric Dipole Moments for Low-J Levels of Interstellar Radicals: SO, C_2S, C_3S, c-HC_3, CH_2CC, and c-C_3H_2. *F. J. Lovas, R. D. Suenram, T. Ogata, & S. Yamamoto.* 399, 325, 199-D7 (1992)

Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

Far-Infrared Spectral Studies of Phase Changes in Water Ice Induced by Proton Irradiation. *Mala H. Moore & Reggie L. Hudson.* 401, 353, 225-D5 (1992)

MOLECULAR PROCESSES

NH_3 and NH_2 in the Coma of Comet Brorsen-Metcalf. *Stephen C. Tegler, Luke F. Burke, Susan Wyckoff, Maria Womack, Uwe Fink, & Michael DiSanti.* 384, 292, 4-E6 (1992)

Structure, Chemistry, and Clumping in the NGC 2071 (North) Molecular Cloud. *Paul F. Goldsmith, Michael Margulis, Ronald L. Snell, & Y. Fukui.* 385, 522, 19-F3 (1992)

Accurate Far-Infrared Rotational Frequencies of Carbon Monoxide. *Thomas D. Varberg & Kenneth M. Evenson.* 385, 763, 22-E8 (1992)

An Extended Search for Extragalactic O_2. *H. S. Liszt.* 386, 139, 25-G9 (1992)

The Contribution of Methanol to the 3.4 Micron Emission Feature in Comets. *Dennis C. Reuter.* 386, 330, 28-C11 (1992)

The Rotational Spectrum of the Carbon Chain Radical HCCCO. *A. L. Cooksy, J. K. G. Watson, C. A. Gottlieb, & P. Thaddeus.* 386, L27, 29-D7 (1992)

Radiative Shocks and Hydrogen Molecules in Pregalactic Gas: The Effects of Postshock Radiation. *Hyesung Kang & Paul R. Shapiro.* 386, 432, 30-F13 (1992)

The Effect of Electron Collisions on Rotational Populations of Cometary Water. *Xingfa Xie & Michael J. Mumma.* 386, 720, 34-C4 (1992)

A Survey of N_2H^+ in Dense Clouds: Implications for Interstellar Nitrogen and Ion-Molecule Chemistry. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 387, 417, 42-B6 (1992)

Detection of SiN in IRC +10216. *B. E. Turner.* 388, L35, 52-D1 (1992)

Near-Ultraviolet Spectroscopy of Comet Austin (1989c1). *Jacobus H. Valk, C. R. O'Dell, Anita L. Cochran, William D. Cochran, Chet B. Opal, & Edwin S. Barker.* 388, 621, 58-A1 (1992)

Orion B (NGC 2024). III. BIMA SO $J_K = 2_2 \rightarrow 1_1$ Observations: Evidence for Peculiar Sulfur Chemistry. *Peter J. Barnes & Richard M. Crutcher.* 389, 325, 64-A5 (1992)

Near-Infrared Observations of the Proto–Planetary Nebula AFGL 618. *William B. Latter, Philip R. Maloney, Douglas M. Kelly, John H. Black, G. H. Rieke, & M. J. Rieke.* 389, 347, 64-C3 (1992)

Formaldehyde Reactions in Dark Clouds. *A. D. Sen, V. G. Anicich, & S. R. Federman.* 391, 141, 87-F10 (1992)

Cometary Gas-Phase Chemistry Taking into Account Homogeneous and Ion-induced Water Recondensation. *J. F. Crifo.* 391, 336, 90-B1 (1992)

The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)

The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)

Electron Energy Loss Spectra of Polycyclic Aromatic Hydrocarbons. *John W. Keller, M. A. Coplan, & R. Goruganthu.* 391, 872, 98-G1 (1992)

A Survey of CCS, HC_3N, HC_5N, and NH_3 toward Dark Cloud Cores and Their Production Chemistry. *Hiroko Suzuki, Satoshi Yamamoto, Masatoshi Ohishi, Norio Kaifu, Shin-ichi Ishikawa, Yasuhiro Hirahara, & Shuro Takano.* 392, 551, 109-B4 (1992)

Estimates of N_2 Abundances in Dense Molecular Clouds. *M. Womack, L. M. Ziurys, & S. Wyckoff.* 393, 188, 116-D6 (1992)

Problems with the Standard Theory of Three-dimensional Masers. *David A. Neufeld.* 393, L37, 120-F1 (1992)

SO and SO_2 in Mass-Loss Envelopes of Red Giants: Probes of Nonequilibrium Circumstellar Chemistry and Mass-Loss Rates. *Raghvendra Sahai & Peter G. Wannier.* 394, 320, 132-A3 (1992)

Mapping Observations of Sulfur-containing Carbon-Chain Molecules in Taurus Molecular Cloud 1 (TMC-1). *Yasuhiro Hirahara, Hiroko Suzuki, Satoshi Yamamoto, Kentarou Kawaguchi, Norio Kaifu, Masatoshi Ohishi, Shuro Takano, Shin-ichi Ishikawa, & Akimasa Masuda.* 394, 539, 136-B1 (1992)

Polycyclic Aromatic Hydrocarbons and Molecular Equilibria in Carbon-rich Stars. *Isabelle Cherchneff & John R. Barker.* 394, 703, 138-C4 (1992)

Protonated Acetylene: An Important Circumstellar and Interstellar Ion. *A. E. Glassgold, A. Omont, & M. Guélin.* 396, 115, 156-E5 (1992)

Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chemin & Colin R. Masson.* 396, L35, 160-F8 (1992)

Carbon Monoxide in SN 1987A. *Weihong Liu, A. Dalgarno, & S. Lepp.* 396, 679, 165-G1 (1992)

Simultaneous Visible and Near-Infrared Spectrophotometry of Comet Austin 1989c_1. *Stephen C. Tegler, Humberto Campins, Stephen Larson, Marvin Kleine, Douglas Kelly, & Marcia Rieke.* 396, 711, 166-B9 (1992)

Detection of Interstellar SO^+: A Diagnostic of Dissociative Shock Chemistry. *B. E. Turner.* 396, L107, 167-F1 (1992)

Models of Gas-Grain Chemistry in Dense Interstellar Clouds with Complex Organic Molecules. *Tatsuhiko I. Hasegawa, Eric Herbst, & Chun Ming Leung.* 82, 167, 51-D13 (1992)

An Extension of the High-Resolution Millimeter- and Submillimeter-Wave Spectrum of Methanol to High Angular Momentum Quantum Numbers. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 82, 405, 55-A9 (1992)

Calculations of Ion-Molecule Deuterium Fractionation Reactions Involving HD. *Sergio A. Maluendes, A. D. McLean, & Eric Herbst.* 397, 477, 176-F10 (1992)

Comet Outbursts and Polymers of HCN. *Terrence W. Rettig, Stephen C. Tegler, Daniel J. Pasto, & Michael J. Mumma.* 398, 293, 185-D5 (1992)

Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

Theoretical Vibration-Rotation Spectrum of Si_2C. *W. Gabriel, G. Chambaud, P. Rosmus, A. Spielfiedel, & N. Feautrier.* 398, 706, 192-G7 (1992)

Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

On the Molecular Complexity of the Hot Cores in Orion A: Grain Surface Chemistry as "The Last Refuge of the Scoundrel." *S. B. Charnley, A. G. G. M. Tielens, & T. J. Millar.* 399, L71, 201-A8 (1992)

Interstellar H_3O^+ and Its Relation to the O_2 and H_2O Abundances. *T. G. Phillips, Ewine F. van Dishoeck, & Jocelyn Keene.* 399, 533, 204-E1 (1992)

Mid-Infrared Rotational Line Emission from Interstellar Molecular Hydrogen. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 399, 563, 204-G7 (1992)

Modeling SiO Maser Emission from Late-Type Stars. *Philip Lockett & Moshe Elitzur.* 399, 704, 206-F9 (1992)

Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

Observational Constraints on Solar Nebula Nitrogen Chemistry: N_2/NH_3. *Maria Womack, Susan Wyckoff, & L. M. Ziurys.* 401, 728, 231-E6 (1992)

NUCLEAR REACTIONS, NUCLEOSYNTHESIS, ABUNDANCES

The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

Abundances of the Heavy Elements in the Magellanic Clouds. III. Interpretation of Results. *Stephen C. Russell & Michael A. Dopita.* 384, 508, 8-D9 (1992)

The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)

Thermal Evolution of Phases during the Cosmological Quark-Hadron Transition. *Michele Mariani & Silvio A. Bonometto.* 385, 393, 18-B5 (1992)

Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

The Evolution through H and He Burning of Galactic Cluster Stars. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 78, 517, 9-G11 (1992)

Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)

A Measurement of the $^{14}C(n,\gamma)^{15}C$ Cross Section at a Stellar Temperature of kT = 23.3 keV. *Hermann Beer, M. Wiescher, F. Käppeler, J. Görres, & P. E. Koehler.* 387, 258, 40-B8 (1992)

s-Processing in Massive Stars as a Function of Metallicity and Interpretation of Observational Trends. *C. M. Raiteri, R. Gallino, & M. Busso.* 387, 263, 40-C1 (1992)

HEAO 3 Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)

Evolution of Beryllium Abundances in the Galactic Halo. *Sean G. Ryan, John E. Norris, M. S. Bessell, & Constantine P. Deliyannis.* 388, 184, 51-C6 (1992)

Cosmological Density of WIMPs from Solar and Terrestrial Annihilations. *Andrew Gould.* 388, 338, 54-E5 (1992)

CNO Destruction by Spallation and Type I X-Ray Bursts. *Jason C. Tillett & James MacDonald.* 388, 555, 57-B7 (1992)

Limits on a Possible Violation of the Strong Equivalence Principle from Primordial Nucleosynthesis. *A. Serna & R. Domínguez-Tenreiro.* 389, 1, 60-B1 (1992)

Possible Sources of the Population I Lithium Abundance and Light-Element Evolution. *Lawrence E. Brown.* 389, 251, 63-B1 (1992)

Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

Measurement of the $^{76}Se(n,\gamma)$ Capture Cross Section and Phenomenological s-Process Studies: The Weak Component. *Hermann Beer, G. Walter, & F. Käppeler.* 389, 784, 71-B1 (1992)

The Chemical Composition of Magellanic Cloud Cepheids and Nonvariable Supergiants. *R. Earle Luck & David L. Lambert.* 79, 303, 18-E3 (1992)

The Interstellar Deuterium-to-Hydrogen Ratio: A Reevaluation of Lyman Absorption-Line Measurements. *Peter R. McCullough.* 390, 213, 76-E10 (1992)

The Collapse of White Dwarfs to Neutron Stars. *S. E. Woosley & E. Baron.* 391, 228, 88-G1 (1992)

On the Calculation of Maxwellian-averaged Capture Cross Sections. *Hermann Beer, F. Voss, & R. R. Winters.* 80, 403, 27-G13 (1992)

Primordial Nucleosynthesis Bounds on the Brans-Dicke Theory. *A. Serna, R. Domínguez-Tenreiro, & G. Yepes.* 391, 433, 93-C4 (1992)

Evolution of Heavy-Element Abundances as a Constraint on Sites for Neutron-Capture Nucleosynthesis. *G. J. Mathews, G. Bazan, & J. J. Cowan.* 391, 719, 97-A1 (1992)

A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)

On the Form of the 1987 Hydrogen Spectrum in the Outer Heliosphere. *J. P. L. Reinecke & H. Moraal.* 392, 272, 104-D1 (1992)

Origin of ^{180m}Ta and the Temperature of the s-Process. *Zs. Németh, F. Käppeler, & G. Reffo.* 392, 277, 104-D7 (1992)

The Fate of ^7Be in the Sun. *C. W. Johnson, E. Kolbe, S. E. Koonin, & K. Langanke.* 392, 320, 105-A1 (1992)

SiC Particles from Asymptotic Giant Branch Stars: Mg Burning and the s-Process. *Lawrence E. Brown & Donald D. Clayton.* 392, L79, 113-E1 (1992)

Minimum Mass for D and H Burning during Slow Accretion. *E. E. Salpeter.* 393, 258, 117-C12 (1992)

The Diffuse Gamma-Ray Background, Light Element Abundances, and Signatures of Early Massive Star Formation. *Joseph Silk & David N. Schramm.* 393, L9, 120-B7 (1992)

A Solvable Model of Fusion Rates in Dense Stars. *Magnus Jändel & Mikael Sahrling.* 393, 679, 124-C5 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

On the Role of Radioactive Decays in Powering Gamma Rays and X-Rays from Novae. *Mario Livio, Apostolos Mastichiadis, Hakki Ögelman, & James W. Truran.* 394, 217, 130-F5 (1992)

Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

The α-Process and the r-Process. *S. E. Woosley & Robert D. Hoffman.* 395, 202, 142-F7 (1992)

A Rapid Decline in the Optical Emission from SN 1957D in M83. *Knox S. Long, P. Frank Winkler, & William P. Blair.* 395, 632, 151-A5 (1992)

The Conductive Propagation of Nuclear Flames. I. Degenerate C + O and O + Ne + Mg White Dwarfs. *F. X. Timmes & S. E. Woosley.* 396, 649, 165-D9 (1992)

Some Remarks on Luminosity Distance and Nucleosynthesis in Higher Dimensional Cosmology. *S. Chatterjee.* 397, 1, 168-B1 (1992)

Diffuse 0.511 MeV Line Emission and the Distribution of Positron Annihilation in the Galaxy. *J. G. Skibo, R. Ramaty, & M. Leventhal.* 397, 135, 169-F3 (1992)

Pycnonuclear Triple-α Fusion Rates. *S. Schramm, K. Langanke, & S. E. Koonin.* 397, 579, 178-B12 (1992)

A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A. *S. Gunji, T. Kamae, S. Miyazaki, Y. Sekimoto, T. Takahashi, T. Tamura, M. Tanaka, N. Yamaoka, T. Yamagami, M. Nomachi, H. Murakami, J. Braga, & J. A. Neri.* 397, L83, 181-A8 (1992)

The Neutrino Process and ^{9}Be in the Early Universe. *R. A. Malaney.* 398, L45, 187-G1 (1992)

Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)

On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)

Constraints on Element Mixing in Classical Novae. *Masayuki Y. Fujimoto & Icko Iben, Jr.* 399, 646, 206-A1 (1992)

r-Process Nucleosynthesis in the High-Entropy Supernova Bubble. *B. S. Meyer, G. J. Mathews, W. M. Howard, S. E. Woosley, & R. D. Hoffman.* 399, 656, 206-B1 (1992)

Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A. *J. D. Kurfess, W. N. Johnson, R. L. Kinzer, R. A. Kroeger, M. S. Strickman, J. E. Grove, M. D. Leising, D. D. Clayton, D. A. Grabelsky, W. R. Purcell, M. P. Ulmer, R. A. Cameron, & G. V. Jung.* 399, L137, 208-B7 (1992)

The ^{57} Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

Light Element Nucleosynthesis: A False Clue? *N. Yu. Gnedin & J. P. Ostriker.* 400, 1, 209-A13 (1992)

Nebular Spectra of Type Ia Supernovae as Probes for Extragalactic Distances, Reddening, and Nucleosynthesis. *P. Ruiz-Lapuente & L. B. Lucy.* 400, 127, 210-E1 (1992)

Reaction Rate and Energy-Loss Rate for Photopair Production by Relativistic Nuclei. *Michał J. Chodorowski, Andrzej A. Zdziarski, & Marek Sikora.* 400, 181, 211-B9 (1992)

Galactic Evolution of D and ^{3}He. *Gary Steigman & Monica Tosi.* 401, 150, 222-G8 (1992)

On Determining the Primordial Helium Abundance from the Spectra of H II Galaxies. *Alison Campbell.* 401, 157, 223-A1 (1992)

Pycnonuclear Reaction Rates for Binary Ionic Mixtures. *S. Ichimaru, S. Ogata, & H. M. Van Horn.* 401, L35, 227-E7 (1992)

The Abundance of Boron in Three Halo Stars. *Douglas K. Duncan, David L. Lambert, & Michael Lemke.* 401, 584, 229-G6 (1992)

Deposition of Mass, Momentum, and Energy by Massive Stars into the Interstellar Medium. *Claus Leitherer, Carmelle Robert, & Laurent Drissen.* 401, 596, 230-A6 (1992)

Strange Quark Contributions to the Nucleon and Neutrino Nucleosynthesis. *E. Kolbe, K. Langanke, S. Krewald, & F. K. Thielemann.* 401, L89, 233-C1 (1992)

OCCULTATIONS

Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)

10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)

PLANETS AND SATELLITES: GENERAL

Occurrence of Global-Scale Emissions on Jupiter: Proposed Identification of Jovian Dimer H_2 Emission. *L. M. Trafton & J. K. G. Watson.* 385, 320, 15-G8 (1992)

Gamma-Ray Bursts from Planet-Magnetosphere Systems around Neutron Stars. *Hitoshi Hanami.* 389, L71, 73-D11 (1992)

VLA Imaging of a Possible Circumstellar Disk around HL Tauri. *L. F. Rodríguez, J. Cantó, J. M. Torrelles, J. F. Gómez, & P. T. P. Ho.* 393, L29, 120-E1 (1992)

Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

Evidence for Unseen Companions around T Tauri Stars. *Kenneth A. Marsh & Michael J. Mahoney.* 395, L115, 154-D1 (1992)

On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)

γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)

PLANETS AND SATELLITES: INDIVIDUAL

Jupiter

Methane Band Photometry of the Faded South Equatorial Belt of Jupiter. *Takehiko Satoh & Kiyoshi Kawabata.* 384, 298, 4-F1 (1992)

Occurrence of Global-Scale Emissions on Jupiter: Proposed Identification of Jovian Dimer H_2 Emission. *L. M. Trafton & J. K. G. Watson.* 385, 320, 15-G8 (1992)

The Abundance and Distribution of Water Vapor in the Jovian Troposphere as Inferred from *Voyager* IRIS Observations. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 388, 648, 58-C7 (1992)

The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)

The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)

Ortho-para–Hydrogen Equilibration on Jupiter. *Barbara E. Carlson, Andrew A. Lacis, & William B. Rossow.* 393, 357, 118-E6 (1992)

On the Inclusion of the Hydrogen Dimer in the Analysis of *Voyager* IRIS Spectra. *Barbara E. Carlson, Qiancheng Ma, & Andrew A. Lacis.* 394, L29, 133-D10 (1992)

Inertial Mode Oscillations of Jupiter. *Umin Lee, Tod E. Strohmayer, & H. M. Van Horn.* 397, 674, 179-D10 (1992)

Mercury

Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)

Neptune

Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

Saturn

The Molecular-Metallic Transition of Hydrogen and the Structure of Jupiter and Saturn. *Gilles Chabrier, Didier Saumon, William B. Hubbard, & Jonathan I. Lunine.* 391, 817, 98-B1 (1992)

The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)

Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

Uranus

Millimeter-Wave Observations of Saturn, Uranus, and Neptune: CO and HCN on Neptune. *Jan Rosenqvist, Emmanuel Lellouch, Paul N. Romani, Gabriel Paubert, & Thérèse Encrenaz.* 392, L99, 113-G1 (1992)

PLASMAS

Level Populations for Fe III Applicable to Astrophysical Plasmas and a Comparison with Planetary Nebula Observations. *F. P. Keenan, K. A. Berrington, P. G. Burke, C. J. Zeippen, M. Le Dourneuf, & R. E. S. Clegg.* 384, 385, 5-F7 (1992)

Resonance Line Radiation Instability in Fully Ionized Plasmas. *William G. Mathews.* 386, 90, 25-C1 (1992)

Connection between Ambient Density Fluctuations and Clumpy Langmuir Waves in Type III Radio Sources. *P. A. Robinson, I. H. Cairns, & D. A. Gurnett.* 387, L101, 48-F1 (1992)

Close Encounters in Coulomb and Gravitational Scattering. I. Relaxation of Isotropic Test-Particle Distributions by Like-Particle Collisions. *Edward C. Shoub.* 389, 558, 68-D8 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

On the Thermal Conductivity due to Collisions between Relativistic Degenerate Electrons. *F. X. Timmes.* 390, L107, 85-D9 (1992)

Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)

The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

Neutrino Emissivity of an Ultrarelativistic Plasma from Positron and Plasmino Annihilation. *Eric Braaten.* 392, 70, 101-G7 (1992)

Self-similar Evolution of Magnetized Plasmas. I. Quasi-static Solution. *Wei-Hong Yang.* 392, 465, 108-B1 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. I. Interaction with Parallel Transverse Cold Plasma Waves. *Jürgen Steinacker & James A. Miller.* 393, 764, 125-C10 (1992)

Microwave Transition Radiation in Solar Flares and in Astrophysics. *G. D. Fleishman & S. W. Kahler.* 394, 688, 138-A11 (1992)

Magnetized Stimulated Scattering in Pulsar Winds. *Mark W. Sincell & Julian H. Krolik.* 395, 553, 149-F7 (1992)

Incompressible Disturbances in Nonuniform Media: Formation of Small Scales. *Francesco Malara, Pierluigi Veltri, Claudio Chiuderi, & Giorgio Einaudi.* 396, 297, 158-F13 (1992)

Propagation of Sound and Thermal Waves in a Plasma with Solar Abundances. *Miguel H. Ibáñez S., & Néstor M. Sánchez D.* 396, 717, 166-C1 (1992)

First-Order Fermi Acceleration in Spherically Symmetric Flows: Solutions Including Quadratic Losses. *Peter A. Becker.* 397, 88, 169-B6 (1992)

On the Thermal Structure and Stability of Configurations with Heat Diffusion and a Gain-Loss Function. I. General Results. *Miguel H. Ibáñez S., Antonio Parravano, & César A. Mendoza B.* 398, 177, 184-B1 (1992)

On the Causes of Temperature Change in Inhomogeneous Low-Density Astrophysical Plasmas. *Jack D. Scudder.* 398, 299, 185-E1 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. II. Implications of Thermal Effects in a Solar Flare Plasma. *James A. Miller & Jürgen Steinacker.* 399, 284, 198-F12 (1992)

The Effect of Line Tying on Parker's Instability. *Ellen G. Zweibel & David L. Bruhwiler.* 399, 318, 199-C11 (1992)

A Hybrid Thermal/Nonthermal Model for the Energetic Emissions from Solar Flares. *Gordon D. Holman & Stephen G. Benka.* 400, L79, 220-F8 (1992)

Electron Injection in Collisionless Shocks. *Amir Levinson.* 401, 73, 222-A1 (1992)

POLARIZATION

The Zeeman Effect in Astrophysical Water Masers and the Observation of Strong Magnetic Fields in Regions of Star Formation. *Gerald E. Nedoluha & William D. Watson.* 384, 185, 3-C5 (1992)

A Reanalysis of the Orbital Inclination of Cygnus XR-1 Determined Polarimetrically. *Joseph F. Dolan.* 384, 249, 4-A9 (1992)

Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

The Practical Application of the Magnetic Virial Theorem. *J. A. Klimchuk, R. C. Canfield, & J. E. Rhoads.* 385, 327, 16-A1 (1992)

The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet. *Geoffrey C. Clayton, Christopher M. Anderson, Antonio Mario Magalhães, Arthur D. Code, Kenneth H. Nordsieck, Marilyn R. Meade, Michael J. Wolff, Brian Babler, Karen S. Bjorkman, Regina E. Schulte-Ladbeck, MaryJane Taylor, & Barbara A. Whitney.* 385, L53, 23-D7 (1992)

Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

Polarization Variability among Wolf-Rayet Stars. VII. The Single Stars WR 14, WR 25, and WR 69. *Laurent Drissen, Carmelle Robert, & Anthony F. J. Moffat.* 386, 288, 27-F11 (1992)

Systematic Variations in the Wavelength Dependence of Interstellar Linear Polarization. *D. C. B. Whittet, P. G. Martin, J. H. Hough, M. F. Rouse, J. A. Bailey, & D. J. Axon.* 386, 562, 32-C14 (1992)

The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

Discovery of Extended Faraday Rotation Compatible with Spiral Structure in an Intervening Galaxy at $z = 0.395$: New Observations of PKS 1229−021. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 387, 528, 45-C1 (1992)

A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

Dust within Globular Clusters: A Large Bubble in NGC 6624? *Juan C. Forte, Sergio A. Cellone, Mariano Méndez, & E. Irene Vega.* 388, 383, 55-B4 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

Infrared Polarimetry and the Galactic Magnetic Field. II. Improved Models. *Terry Jay Jones, Dimitri Klebe, & John M. Dickey.* 389, 602, 69-A1 (1992)

Spectral Evolution of Accretion Disks of Dwarf Novae. III. Outburst Cycle of SS Cygni. *F. H. Cheng & D. N. C. Lin.* 389, 714, 70-C5 (1992)

On the Rotation of Polarization by a Gravitational Lens. *C. C. Dyer & Eric G. Shaver.* 390, L5, 78-B1 (1992)

The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae. *R. E. Schulte-Ladbeck, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, D. Shepherd, M. Taylor, & B. A. Whitney.* 391, L37, 92-C6 (1992)

Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 392, 249, 104-A9 (1992)

Electron Impact Polarization of Atomic Spectral Lines. I. A General Theoretical Scheme. *Silvano Fineschi & Egidio Landi Degl'Innocenti.* 392, 337, 105-B6 (1992)

Interstellar Polarization from 3 to 5 Microns in Reddened Stars. *P. G. Martin, A. J. Adamson, D. C. B. Whittet, J. H. Hough, J. A. Bailey, S.-H. Kim, S. Sato, M. Tamura, & T. Yamashita.* 392, 691, 110-G3 (1992)

Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

Model Scattering Envelopes of Young Stellar Objects. I. Method and Application to Circumstellar Disks. *Barbara A. Whitney & Lee Hartmann.* 395, 529, 149-D1 (1992)

Intermediate-Resolution Spectropolarimetry of 3C 273. *J. A. de Diego, E. Pérez, M. R. Kidger, & L. O. Takalo.* 396, L19, 160-D10 (1992)

The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris. *Carmelle Robert, Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, Wilhelm Seggewiss, Virpi S. Niemela, Miguel A. Cerruti, Paul Barrett, Jeremy Bailey, Jorge Garcia, & Santiago Tapia.* 397, 277, 171-D1 (1992)

Detection of Obscured Broad-Line Regions in Four Seyfert 2 Galaxies. *Hien D. Tran, Joseph S. Miller, & Laura E. Kay.* 397, 452, 176-C12 (1992)

Polarization and the Envelopes of B[e] Supergiants in the Magellanic Clouds. *A. M. Magalhães.* 398, 286, 185-C11 (1992)

Observation and Interpretation of the Asymmetric Stokes *Q*, *U*, and *V* Line Profiles in Sunspots. *J. Sánchez Almeida & B. W. Lites.* 398, 359, 186-C1 (1992)

Inversion of Stokes Profiles. *B. Ruiz Cobo & J. C. del Toro Iniesta.* 398, 375, 186-D11 (1992)

Spectropolarimetry of the 5797 Å Diffuse Interstellar Band. *A. J. Adamson & D. C. B. Whittet.* 398, L69, 188-C1 (1992)

A Survey for High Optical Polarization in Quasars with Core-dominant Radio Structure: Is There a Beamed Optical Continuum? *Beverley J. Wills, D. Wills, Michel Breger, R. R. J. Antonucci, & Richard Barvainis.* 398, 454, 189-F10 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

Polarization in the Narrow [O III] Lines in Seyfert 2 Galaxies. *Robert W. Goodrich.* 399, 50, 195-F8 (1992)

The Structure of Magnetic Fields in Dark Clouds: Infrared Polarimetry in B216–217. *Alyssa A. Goodman, Terry J. Jones, Elizabeth A. Lada, & Philip C. Myers.* 399, 108, 196-E3 (1992)

Polarization of the Far-Infrared Emission from the Thermal Filaments of the Galactic Center Arc. *M. Morris, J. A. Davidson, M. Werner, J. Dotson, D. F. Figer, R. Hildebrand, G. Novak, & S. Platt.* 399, L63, 200-G6 (1992)

Polarimetry and Spectrophotometry of the QSO IRAS 13349+2438 and the Unification of Active Galaxies. *Beverley J. Wills, D. Wills, Neal J. Evans II, A. Natta, K. L. Thompson, M. Breger, & M. L. Sitko.* 400, 96, 210-B10 (1992)

Intensive Optical Monitoring of the BL Lacertae Object PKS 2155−304. *Paul S. Smith, Patrick B. Hall, Richard G. Allen, & Michael L. Sitko.* 400, 115, 210-D1 (1992)

Scattering of Infrared Radiation by Dust in NGC 7023 and NGC 2023. *K. Sellgren, M. W. Werner, & H. L. Dinerstein.* 400, 238, 211-G9 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

Polarization Cancellation in the Two-Component Winds from Wolf-Rayet Stars. *M. Taylor & J. P. Cassinelli.* 401, 311, 224-G5 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry. *R. E. Schulte-Ladbeck, D. S. Shepherd, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, M. Taylor, & B. A. Whitney.* 401, L105, 233-D12 (1992)

RADIATION MECHANISMS: BREMSSTRAHLUNG

EXOSAT Observations of the Broad-Line Radio Galaxy 3C 382. *K. K. Ghosh & S. Soundararajaperumal.* 389, 179, 62-C1 (1992)

Stellar Wind Collision and X-Ray Generation in Massive Binaries. *V. V. Usov.* 389, 635, 69-C10 (1992)

Hot Pair-dominated Accretion Disks. *Gunnlaugur Björnsson & Roland Svensson.* 394, 500, 135-E9 (1992)

X-Ray Emission from Single Magnetic Early-Type Stars. *V. V. Usov & D. B. Melrose.* 395, 575, 150-B1 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

X-Ray Observations of the Seyfert 1 Galaxy MCG 2-58-22. *K. K. Ghosh & S. Soundararajaperumal.* 398, 501, 190-D1 (1992)

Noise-driven Radiative Shocks. II. Further Implications for the Quasi-periodic Oscillations of the AM Herculis Objects. *Kent S. Wood, James N. Imamura, & Michael T. Wolff.* 398, 593, 191-E1 (1992)

RADIATION MECHANISMS: COMPTON AND INVERSE COMPTON

Compton Scattering in a Converging Fluid Flow: Spherical Near-critical Accretion onto Neutron Stars. *Apostolos Mastichiadis & Nikolaos D. Kylafis.* 384, 136, 2-F7 (1992)

Multiple Resonant Scattering in the Compton Upscatter Model of Gamma-Ray Bursts. *J. J. Brainerd.* 384, 545, 9-A1 (1992)

Resonant Compton Cooling and Annihilation Line Production in Gamma-Ray Bursts. *R. D. Preece & A. K. Harding.* 386, 308, 28-B1 (1992)

Energy Dependence of Normal Branch Quasi-periodic Intensity Oscillations in Low-Mass X-Ray Binaries. *Guy S. Miller & Frederick K. Lamb.* 388, 541, 57-A5 (1992)

An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)

The Expected High-Energy to Ultra–High-Energy Gamma-Ray Spectrum of the Crab Nebula. *O. C. De Jager & A. K. Harding.* 396, 161, 157-B6 (1992)

A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

Angle-dependent Green's Functions for Relativistic Compton Reflection. *Xin-Min Hua & Richard E. Lingenfelter.* 397, 591, 178-D1 (1992)

Nonthermal Electron-Positron Pairs and the Break in the Hard X-Ray Spectrum of NGC 4151. *Paolo S. Coppi & Andrzej A. Zdziarski.* 398, L37, 187-F1 (1992)

Morphological Peculiarities of High-Redshift Radio Galaxies: The Role of Relativistic Electrons. *Ruth A. Daly.* 399, 426, 203-C9 (1992)

RADIATION MECHANISMS: CYCLOTRON AND SYNCHROTRON

Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)

The Synchro-Compton Limit of the Brightness Temperature of Nonstationary Radio Sources. *V. I. Slysh.* 391, 453, 93-E4 (1992)

A Thermal/Nonthermal Model for Solar Microwave Bursts. *Stephen G. Benka & Gordon D. Holman.* 391, 854, 98-E7 (1992)

Magnetized Stimulated Scattering in Pulsar Winds. *Mark W. Sincell & Julian H. Krolik.* 395, 553, 149-F7 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

Importance of Synchrotron Cooling in Self-consistent Spherical Accretion Models. *A. Mason & R. Turolla.* 400, 170, 211-A10 (1992)

Formation of the Dark Bays in the Crab Optical Synchrotron Nebula: Is the Crab Pulsar Wind Bubble Interacting with Its Progenitor's Wind? *Zni-Yun Li & Mitchell C. Begelman.* 400, 186, 211-C1 (1992)

Radio Observations of the 1989 Transient Event in V404 Cygni (= GS 2023+338). *Xiaohong Han & R. M. Hjellming.* 400, 304, 212-F6 (1992)

Radiative Acceleration by Synchrotron Sources. *G. Ghisellini, G. Bodo, & E. Trussoni.* 401, 87, 222-B5 (1992)

RADIATION MECHANISMS: GRAVITATIONAL

Post-Newtonian Frequencies for the Pulsations of Rapidly Rotating Neutron Stars. *Curt Cutler & Lee Lindblom.* 385, 630, 21-A1 (1992)

PSR 0655+64: An Astrophysical Laboratory for Testing Relativistic Gravity Theories. *Itzhak Goldman.* 390, 494, 81-D11 (1992)

Detectability of the Gravitational Wave Signal from a Close Neutron Star Binary with Mass Transfer. *Piotr Jaranowski & Andrzej Krolak.* 394, 586, 136-F1 (1992)

Gravitational Wave Burst Produced by Merging of Central Black Holes of Galaxies. *Toshiyuki Fukushige, Toshikazu Ebisuzaki, & Junichiro Makino.* 396, L61, 166-G7 (1992)

Coalescing Binary Neutron Stars. *Christopher S. Kochanek.* 398, 234, 184-F7 (1992)

Tidal Interactions of Inspiraling Compact Binaries. *Lars Bildsten & Curt Cutler.* 400, 175, 211-B1 (1992)

Hydrodynamical Evolution of Coalescing Binary Neutron Stars. *Frederic A. Rasio & Stuart L. Shapiro.* 401, 226, 223-G9 (1992)

RADIATION MECHANISMS: MISCELLANEOUS

Self-Organization of Cosmic Radiation Pressure Instability. II. One-dimensional Simulations. *Craig J. Hogan & Jorden Woods.* 384, 111, 2-D4 (1992)

A VLA 3.6 Centimeter Survey of N-Type Carbon Stars. *Donald G. Luttermoser & Alexander Brown.* 384, 634, 10-A7 (1992)

The Origin of the Far-Ultraviolet Continuum in Solar and Stellar Flares. *K. J. H. Phillips, G. E. Bromage, & J. G. Doyle.* 385, 731, 22-B11 (1992)

Resonance Line Radiation Instability in Fully Ionized Plasmas. *William G. Mathews.* 386, 90, 25-C1 (1992)

Flash Photoionization of Gamma-Ray Burst Environments. *David L. Band & Dieter H. Hartmann.* 386, 299, 28-A5 (1992)

High Dynamic Range Multifrequency Radio Observations of a Solar Active Region. *S. M. White, M. R. Kundu, & N. Gopalswamy.* 78, 599, 11-A13 (1992)

π^0-Decay Gamma-Ray Emission from Winds of Massive Stars. *Richard L. White & Wan Chen.* 387, L81, 48-D6 (1992)

Photodissociation in Strong Magnetic Fields and Application to Pulsars. *V. B. Bhatia, Namrata Chopra, & N. Panchapakesan.* 388, 131, 50-F1 (1992)

On the 440 keV Line in the Crab Nebula Pulsar. *W. Bednarek, O. Cremonesi, & A. Treves.* 390, 489, 81-D5 (1992)

The X-Ray Spectra of Galaxies. II. Average Spectral Properties and Emission Mechanisms. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 393, 134, 115-F12 (1992)

The Stability of QSO/AGN Broad Emission Line Clouds. *I. S. Krinsky & R. C. Puetter.* 394, 472, 135-C1 (1992)

Microwave Transition Radiation in Solar Flares and in Astrophysics. *G. D. Fleishman & S. W. Kahler.* 394, 688, 138-A11 (1992)

Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)

Effects of Evolving Rotating Equilibrium Configurations on the Cooling and Spin-down of Pulsars. *K. S. Cheng, W. Y. Chau, J. L. Zhang, & H. F. Chau.* 396, 135, 156-G3 (1992)

The Radio Properties of the Broad-Absorption-Line QSOs. *John T. Stocke, Simon L. Morris, Ray J. Weymann, & Craig B. Foltz.* 396, 487, 163-E5 (1992)

Reaction Rate and Energy-Loss Rate for Photopair Production by Relativistic Nuclei. *Michał J. Chodorowski, Andrzej A. Zdziarski, & Marek Sikora.* 400, 181, 211-B9 (1992)

New Results on the Radio–Far-Infrared Relation for Galaxies. *Rob Price & Nebojsa Duric.* 401, 81, 222-A11 (1992)

Gamma-Ray Line Afterglow from Burst Environments. *H. S. Fencl, R. N. Boyd, & Dieter Hartmann.* 401, 120, 222-E1 (1992)

Radiation-viscous Boundary Layers. *Nahum Arav & Mitchell C. Begelman.* 401, 125, 222-E7 (1992)

Radiation from a Relativistic Magnetized Star. *V. Belinsky & R. Ruffini.* 401, L27, 227-D7 (1992)

High-Energy Particle Acceleration by Explosive Electromagnetic Interaction in an Accretion Disk. *C. A. Haswell, T. Tajima, & J.-I. Sakai.* 401, 495, 228-G5 (1992)

RADIATION MECHANISMS: THERMAL

An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

Radiation Dynamics in X-Ray Binaries. I. Type 1 Bursts. *Mark A. Walker.* 385, 642, 21-B1 (1992)

Infrared Observations and Thermal Models of the β Pictoris Disk. *D. E. Backman, F. C. Gillett, & F. C. Witteborn.* 385, 670, 21-D8 (1992)

Mass Loss from OH/IR Stars: Models for the Infrared Emission of Circumstellar Dust Shells. *K. Justtanont & A. G. G. M. Tielens.* 389, 400, 64-G10 (1992)

Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

Impulsive Phase Fe Kα Emission in a Flare of 1989 March. *D. M. Zarro, B. R. Dennis, & G. L. Slater.* 391, 865, 98-F6 (1992)

Geometrically Thin, Hot Accretion Disks: Topology of the Thermal Equilibrium Curves. *Masaaki Kusunose & Shin Mineshige.* 392, 653, 110-D1 (1992)

Submillimeter Observations of Radio-quiet Quasars and a Luminous Seyfert 1 Galaxy Including the First Detections. *Richard Barvainis, Robert Antonucci, & Paul Coleman.* 399, L19, 200-B1 (1992)

Morphological Peculiarities of High-Redshift Radio Galaxies: The Role of Relativistic Electrons. *Ruth A. Daly.* 399, 426, 203-C9 (1992)

RADIATIVE TRANSFER

Compton Scattering in a Converging Fluid Flow: Spherical Near-critical Accretion onto Neutron Stars. *Apostolos Mastichiadis & Nikolaos D. Kylafis.* 384, 136, 2-F7 (1992)

Multiple Resonant Scattering in the Compton Upscatter Model of Gamma-Ray Bursts. *J. J. Brainerd.* 384, 545, 9-A1 (1992)

The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

Dynamics of the Envelopes of Be Stars in the Equatorial Plane. *Haiqi Chen, J. M. Marlborough, & L. B. F. M. Waters.* 384, 605, 9-F1 (1992)

Fe II Emission Lines. II. Excitation Mechanisms in Cool Stars. *P. G. Judge, C. Jordan, & U. Feldman.* 384, 613, 9-F10 (1992)

Non–LTE, Line-blanketed Model Atmospheres for Late O- and Early B-Type Stars. *James A. Grigsby, Nancy D. Morrison, & Lawrence S. Anderson.* 78, 205, 4-D9 (1992)

Covariant Flux-limited Diffusion Theories. *A. M. Anile & V. Romano.* 386, 325, 28-C5 (1992)

Partially Coherent Scattering in Stellar Chromospheres. I. Effects on Resonance Line Thermalization. *Kenneth G. Gayley.* 78, 549, 10-D7 (1992)

X-Ray–heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations. *Suzanne L. Hawley & George H. Fisher.* 78, 565, 10-F1 (1992)

The Sobolev Approximation for Line Formation with Partial Frequency Redistribution. *D. G. Hummer & G. B. Rybicki.* 387, 248, 40-A10 (1992)

A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

Radiative Instabilities and 1000 Second Fluctuations in Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 387, L73, 48-C10 (1992)

Ionization and Excitation in Cool Giant Stars. I. Hydrogen and Helium. *Donald G. Luttermoser & Hollis R. Johnson.* 388, 579, 57-D7 (1992)

X-Ray Scattering and Fluorescence in the Wind of a Massive X-Ray Binary. *W. Lewis, S. Rappaport, A. Levine, & F. Nagase.* 389, 665, 69-F3 (1992)

1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras. *Alan J. Collison & John D. Fix.* 390, 191, 76-C13 (1992)

Partially Coherent Scattering in Stellar Chromospheres. II. The First-Order Escape Probability Method. *K. G. Gayley.* 390, 573, 82-D8 (1992)

Partially Coherent Scattering in Stellar Chromospheres. III. A Second-Order Escape Probability Method. *K. G. Gayley.* 390, 583, 82-E5 (1992)

Incorporation of Density Fluctuations into Photoionization Calculations. *Robert E. Williams.* 392, 99, 102-C1 (1992)

A Modified Eddington-Barbier Relation in Highly Coherent Resonance-Line Wings. *K. G. Gayley.* 392, 353, 105-C9 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. I. The Hydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 753, 33-G3 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. II. The Magnetohydrodynamic Algorithms and Tests. *James M. Stone & Michael L. Norman.* 80, 791, 34-C5 (1992)

ZEUS-2D: A Radiation Magnetohydrodynamics Code for Astrophysical Flows in Two Space Dimensions. III. The Radiation Hydrodynamic Algorithms and Tests. *James M. Stone, Dimitri Mihalas, & Michael L. Norman.* 80, 819, 34-E11 (1992)

Problems with the Standard Theory of Three-dimensional Masers. *David A. Neufeld.* 393, L37, 120-F1 (1992)

Dust and the Transfer of Stellar Radiation within Galaxies. *Adolf N. Witt, Harley A. Thronson, Jr., & John M. Capuano, Jr.* 393, 611, 123-D7 (1992)

Two-Stream, Second-Order, Probabilistic Radiative Transfer. *I. S. Krinsky & R. C. Puetter.* 393, 716, 124-F10 (1992)

In Search of Evidence for Protostellar Collapse: A Systematic Study of Line Formation in Low-Mass Dense Cores. *Shudong Zhou.* 394, 204, 130-E4 (1992)

A Flux-limited Model of Particle Diffusion and Viscosity. *Ramesh Narayan.* 394, 261, 131-C3 (1992)

The Stability of QSO/AGN Broad Emission Line Clouds. *I. S. Krinsky & R. C. Puetter.* 394, 472, 135-C1 (1992)

General Theory of the Purcell-Pennypacker Scattering Approach and Its Extension to Bianisotropic Scatterers. *Akhlesh Lakhtakia.* 394, 494, 135-E1 (1992)

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

Model Scattering Envelopes of Young Stellar Objects. I. Method and Application to Circumstellar Disks. *Barbara A. Whitney & Lee Hartmann.* 395, 529, 149-D1 (1992)

Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)

Two-dimensional Viscous Accretion Disk Models. I. On Meridional Circulations in Radiative Regions. *W. Kley & D. N. C. Lin.* 397, 600, 178-D13 (1992)

On the Thermal Structure and Stability of Configurations with Heat Diffusion and a Gain-Loss Function. I. General Results. *Miguel H. Ibáñez S., Antonio Parravano, & César A. Mendoza B.* 398, 177, 184-B1 (1992)

Radiative Equilibrium in Rapidly Expanding Shells. *P. H. Hauschildt.* 398, 224, 184-E9 (1992)

Inversion of Stokes Profiles. *B. Ruiz Cobo & J. C. del Toro Iniesta.* 398, 375, 186-D11 (1992)

An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)

Flux-limited Diffusion in Hydrodynamics. *J. Cooperstein & E. Baron.* 398, 531, 190-F11 (1992)

Radiation Transfer in Gamma-Ray Bursts. *B. J. Carrigan & J. I. Katz.* 399, 100, 196-D6 (1992)

Rapid Time Variations and Radiative Instabilities of Astrophysical Masers. *Gerardo A. Scappaticci & William D. Watson.* 400, 351, 213-C7 (1992)

Infrared Spectra of Obscuring Dust Tori around Active Galactic Nuclei. I. Calculational Method and Basic Trends. *Edward A. Pier & Julian H. Krolik.* 401, 99, 222-C5 (1992)

The Dynamics of Molecular Cloud Envelopes in a Varying Ultraviolet Radiation Field. *C. Bréart de Boisanger, J.-P. Chièze, & B. Meltz.* 401, 182, 223-D1 (1992)

Enhancement of Diffusive Transport in Oscillatory Flows. *E. Knobloch & W. J. Merryfield.* 401, 196, 223-E3 (1992)

Photon Escape Probabilities from Resolved Sources: Application to Solar C III Limb Emission. *S. O. Kastner & A. K. Bhatia.* 401, 416, 226-C1 (1992)

Heating of H II Regions with Application to the Galactic Center. *Philip R. Maloney, David J. Hollenbach, & Charles H. Townes.* 401, 559, 229-E5 (1992)

On the Photon Diffusion Time Scale for the Sun. *R. Mitalas & K. R. Sills.* 401, 759, 232-A1 (1992)

High-Excitation ^{29}SiO and ^{30}SiO Maser Emission. *J. Cernicharo & V. Bujarrabal.* 401, L109, 233-E5 (1992)

RADIO CONTINUUM: GALAXIES

The Origin of the Optical Emission Lines Associated with Extragalactic Radio Sources. *S. M. Viegas & E. M. de Gouveia Dal Pino.* 384, 467, 8-A1 (1992)

Infrared and Optical Morphologies of Distant Radio Galaxies. *M. A. Rigler, S. J. Lilly, A. Stockton, F. Hammer, & O. Le Fèvre.* 385, 61, 12-G1 (1992)

The Radio Source and Bipolar Nebulosity in the Seyfert Galaxy NGC 3516. *Takamitsu Miyaji, Andrew S. Wilson, & Ismael Pérez-Fournon.* 385, 137, 13-F1 (1992)

Origin of the Structures and Polarization in the Classical Double 3C 219. *David A. Clarke, Alan H. Bridle, Jack O. Burns, Richard A. Perley, & Michael L. Norman.* 385, 173, 14-B1 (1992)

An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

The Clustering of Radio Galaxies. *Neta A. Bahcall & Arati Chokshi.* 385, L33, 23-B1 (1992)

Infrared Imaging of $z > 2$ Radio Galaxies. *P. J. McCarthy, S. E. Persson, & S. C. West.* 386, 52, 24-F7 (1992)

Rotation Measures of Low-Latitude Extragalactic Sources and the Magnetoionic Structure of the Galaxy. *Andrew W. Clegg, James M. Cordes, John H. Simonetti, & Shrinivas R. Kulkarni.* 386, 143, 26-A1 (1992)

Inverse Compton Scattering and the Alignments Observed in High-Redshift Radio Galaxies. *Ruth A. Daly.* 386, L9, 29-B9 (1992)

Compact Steep Spectrum Sources and Linear Size Evolution. *L. I. Onuora.* 386, 452, 31-A7 (1992)

Optical and Radio Variability in Blazars. *Beth R. Hufnagel & Joel N. Bregman.* 386, 473, 31-C5 (1992)

Luminosity Functions, Relativistic Beaming, and Unified Theories of High-Luminosity Radio Sources. *P. Padovani & C. M. Urry.* 387, 449, 44-C9 (1992)

Reconciling the Image Brightness Ratios in the Gravitational Lens System 0957+561. *Samuel R. Conner, Joseph Lehár, & Bernard F. Burke.* 387, L61, 48-B7 (1992)

A Survey of the Milliarcsecond Polarization Properties of BL Lacertae Objects at 5 GHz. *D. C. Gabuzda, T. V. Cawthorne, D. H. Roberts, & J. F. C. Wardle.* 388, 40, 49-E5 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

The Infrared Properties of Quasars and Radio Galaxies: Testing the Unification Schemes. *Timothy M. Heckman, Kenneth C. Chambers, & Marc Postman.* 391, 39, 86-E3 (1992)

The Structure of Southern Extragalactic Radio Sources. *Paul A. Jones & W. Bruce McAdam.* 80, 137, 24-C3 (1992)

Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)

Statistics of Pencil Beams in Voronoi Foams. *Mark U. SubbaRao & Alexander S. Szalay.* 391, 483, 93-G12 (1992)

Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

The Milliarcsecond Structure of Highly Variable Radio Sources. *Ann E. Wehrle, Marshall H. Cohen, Stephen C. Unwin, Hugh D. Aller, Margo F. Aller, & George Nicolson.* 391, 589, 95-C5 (1992)

Polarization in the Radio Galaxy 3C 109—An Obscured Quasar. *Robert W. Goodrich & Marshall H. Cohen.* 391, 623, 95-F12 (1992)

A VLBI Search for AGN Radio Cores in Starburst Galaxies. *Colin J. Lonsdale, Carol J. Lonsdale, & Harding E. Smith.* 391, 629, 95-G6 (1992)

Collective Emission from Rapidly Variable Quasars. *Gregory Benford.* 391, L59, 99-D1 (1992)

Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)

A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

Multicolor Images of Spatially Resolved Structures around High-Redshift Quasars. *Matthew D. Lehnert, Timothy M. Heckman, Kenneth C. Chambers, & George K. Miley.* 393, 68, 114-G12 (1992)

Radio and Infrared Emission from Markarian Starburst Galaxies. *Peter C. Stine.* 81, 49, 35-F9 (1992)

A Compendium of Radio Spectra and Luminosities for Three Complete Samples of Radio Sources. *T. Herbig & A. C. S. Readhead.* 81, 83, 36-B11 (1992)

Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

VLA Observations of the Inner Lobes of Centaurus A. *David A. Clarke, Jack O. Burns, & Michael L. Norman.* 395, 444, 147-G7 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

Confusion Noise and Source Clustering. *X. Barcons.* 396, 460, 163-B11 (1992)

The University of Michigan Radio Astronomy Data Base. I. Structure Function Analysis and the Relation between BL Lacertae Objects and Quasi-stellar Objects. *P. A. Hughes, H. D. Aller, & M. F. Aller.* 396, 469, 163-C9 (1992)

The Radio Properties of the Broad-Absorption-Line QSOs. *John T. Stocke, Simon L. Morris, Ray J. Weymann, & Craig B. Foltz.* 396, 487, 163-E5 (1992)

A New Theory for the Alignment Effect. *Stephen A. Eales.* 397, 49, 168-F1 (1992)

Optical Identification, Radio Galaxy Environment, and Statistical Properties for a Homogeneous Sample of 3196 Radio Sources from the Texas Survey. *Elizabeth P. Bozyan.* 82, 1, 49-B1 (1992)

Kinematics of the Parsec-Scale Relativistic Jet in 3C 345. *Stephen C. Unwin & Ann E. Wehrle.* 398, 74, 183-A1 (1992)

The Compactness of Far-Infrared Bright Galaxies. *Zhong Wang & George Helou.* 398, L33, 187-E7 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

How Old Is the z = 3.4 Radio Galaxy B2 0902+34. *Peter Eisenhardt & Mark Dickinson.* 399, L47, 200-E4 (1992)

Discovery of a Synchrotron-emitting Halo around NGC 253. *C. L. Carilli, M. A. Holdaway, P. T. P. Ho, & C. G. De Pree.* 399, L59, 200-F8 (1992)

Morphological Peculiarities of High-Redshift Radio Galaxies: The Role of Relativistic Electrons. *Ruth A. Daly.* 399, 426, 203-C9 (1992)

Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

New Results on the Radio–Far-Infrared Relation for Galaxies. *Rob Price & Nebojsa Duric.* 401, 81, 222-A11 (1992)

Hubble Space Telescope Imaging of Distant Galaxies: 4C 41.17 at z = 3.8. *G. K. Miley, K. C. Chambers, W. J. M. van Breugel, & F. Macchetto.* 401, L69, 232-G10 (1992)

RADIO CONTINUUM: GENERAL

A New Catalog of 30,239 1.4 GHz Sources. *Richard L. White & Robert H. Becker.* 79, 331, 18-G9 (1992)

Identification and Spectroscopy of Radio Sources from the Third Bologna Survey. *D. J. Thompson, S. Djorgovski, M. Vigotti, & G. Grueff.* 81, 1, 35-B1 (1992)

A Direct Gravitational Lensing Test for 10^6 $M_\odot$ Black Holes in Halos of Galaxies. *Joachim Wambsganss & Bohdan Paczyński.* 397, L1, 173-A8 (1992)

Electron Injection in Collisionless Shocks. *Amir Levinson.* 401, 73, 222-A1 (1992)

RADIO CONTINUUM: INTERSTELLAR

Gravitational Lensing by a Massive Black Hole at the Galactic Center. *Mark Wardle & Farhad Yusef-Zadeh.* 387, L65, 48-C1 (1992)

Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

The Optical Emission-Line Background and Accompanying Emissions at Ultraviolet, Infrared, and Millimeter Wavelengths. *R. J. Reynolds.* 392, L35, 106-E1 (1992)

Activity and Radio Spectral Index Variations near the Center of the Crab Nebula. *M. F. Bietenholz & P. P. Kronberg.* 393, 206, 116-F1 (1992)

Riddle and Puzzle of the Optical Region S122 = 2306+1439. *J. P. Vallée & A. G. de Bruyn.* 393, 674, 124-B10 (1992)

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

An *IRAS* Survey of Galactic Supernova Remnants. *Jon M. Saken, Robert A. Fesen, & J. Michael Shull.* 81, 715, 45-F9 (1992)

Electron Acceleration in Tycho's and Kepler's Supernova Remnants: Spectral Evidence of Fermi Shock Acceleration. *Stephen P. Reynolds & Donald C. Ellison.* 399, L75, 201-B1 (1992)

A Surface Brightness Correlation between Carbon Monoxide and Nonthermal Radio Continuum Emission in the Galaxy. *R. J. Allen.* 399, 573, 205-A5 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6−0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

The Radio Counterpart of the Hard X-Ray Source GRS 1758−258. *L. F. Rodríguez, I. F. Mirabel, & J. Martí.* 401, L15, 227-C1 (1992)

RADIO CONTINUUM: SOLAR SYSTEM

Subsurface Emissions from Mercury: VLA Radio Observations at 2 and 6 Centimeters. *Michael J. Ledlow, Jack O. Burns, Galen R. Gisler, Jun-Hui Zhao, Michael Zeilik, & Daniel N. Baker.* 384, 640, 10-B1 (1992)

Detection of Fundamental and Harmonic Type III Radio Emission and the Associated Langmuir Waves at the Source Region. *M. J. Reiner, R. G. Stone, & J. Fainberg.* 394, 340, 132-B12 (1992)

RADIO CONTINUUM: STARS

A VLA 3.6 Centimeter Survey of N-Type Carbon Stars. *Donald G. Luttermoser & Alexander Brown.* 384, 634, 10-A7 (1992)

Simultaneous X-Ray and Radio Observations of GX 5−1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

Gamma-Ray Bursts and Radio Pulsar Glitches. *D. Hartmann, K. Hurley, & M. Niel.* 387, 622, 46-D1 (1992)

Observations of Symbiotic Stars at Millimeter and Submillimeter Wavelengths. *E. R. Seaquist & A. R. Taylor.* 387, 624, 46-D5 (1992)

First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)

Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

Radio Emission from Chemically Peculiar Stars. *Jeffrey L. Linsky, Stephen A. Drake, & T. S. Bastian.* 393, 341, 118-D1 (1992)

The 20 and 6 Centimeter Radio Light Curves for SN 1981K: A Type II Radio Supernova. *Schuyler D. Van Dyk, Kurt W. Weiler, Richard A. Sramek, & Nino Panagia.* 396, 195, 157-E4 (1992)

Limits on Detectability of Mass Loss from Cool Dwarfs. *D. J. Mullan, J. G. Doyle, R. O. Redman, & M. Mathioudakis.* 397, 225, 170-F12 (1992)

Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)

Full Evolution of the 6 and 20 Centimeter Radio Emission from SN 1980K. *Kurt W. Weiler, Schuyler D. Van Dyk, Nino Panagia, & Richard A. Sramek.* 398, 248, 184-G9 (1992)

Radio Observations of the 1989 Transient Event in V404 Cygni (= GS 2023+338). *Xiaohong Han & R. M. Hjellming.* 400, 304, 212-F6 (1992)

VLBI Survey of ρ Ophiuchi: A Population of Magnetized, Diskless Young Stellar Objects. *Philippe André, Bryan D. Deeney, Robert B. Phillips, & Jean-François Lestrade.* 401, 667, 230-G1 (1992)

RADIO LINES: ATOMIC

An Improved Method to Derive H I Absorption Spectra through the Disks of Galaxies: Application to the Sculptor Group. *John M. Dickey, Elias Brinks, & Daniel Puche.* 385, 501, 19-D6 (1992)

Physical Properties of Neutral Gas in M31 and the Galaxy. *Robert Braun & René A. M. Walterbos.* 386, 120, 25-E10 (1992)

Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

A Study of a 21 Centimeter–selected Sample of Galaxies. I. The Survey. *P. A. Henning.* 78, 365, 7-D3 (1992)

Luminosity–Line Width Relations and the Extragalactic Distance Scale. I. Absolute Calibration. *Michael J. Pierce & R. Brent Tully.* 387, 47, 37-E8 (1992)

Atomic and Molecular Outflow in DR 21. *A. P. G. Russell, J. Bally, R. Padman, & R. E. Hills.* 387, 219, 39-E13 (1992)

Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

The Sharpless 187 Gas Complex: A Multifrequency Study. *G. Joncas, D. Durand, & R. S. Roger.* 387, 591, 46-A9 (1992)

Time Variations in Millimeter-Wave Radio Recombination Lines from the Be Star MWC 349A. *M. A. Gordon.* 387, 701, 47-D5 (1992)

Detection of the H92α Radio Recombination Line from the Symbiotic Star H1–36 Arae. *T. S. Bastian.* 387, L77, 48-D1 (1992)

The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

H I Observations of Galaxies in the Hercules Supercluster. II. Additional UGC Galaxies and Galaxies in Selected CGCG Fields. *Wolfram Freudling, Martha P. Haynes, & Riccardo Giovanelli.* 79, 157, 16-B1 (1992)

Properties of the Redshift. IV. Reference Data. *W. G. Tifft.* 79, 183, 16-D13 (1992)

Galactic Worms. I. Catalog of Worm Candidates. *Bon-Chul Koo, Carl Heiles, & William T. Reach.* 390, 108, 75-D6 (1992)

The Separation between Gas and Dust Filaments at the Edge of the Expanding Shell in Eridanus. *G. L. Verschuur, L. J Rickard, F. Verter, M. W. Pound, & D. Leisawitz.* 390, 514, 81-F7 (1992)

The Evolutionary History of the Interacting Galaxy System NGC 7714/7715 (Arp 284). *Beverly J. Smith & John F. Wallin.* 393, 544, 122-E7 (1992)

Anomalously High Apparent Abundances of Singly Ionized Helium in the Galactic H II Region W3A. *P. R. Roelfsema, W. M. Goss, & D. C. V. Mallik.* 394, 188, 130-C13 (1992)

Northern Dwarf and Low Surface Brightness Galaxies. II. The Green Bank Neutral Hydrogen Survey. *Stephen E. Schneider, Trinh X. Thuan, Jeffrey G. Mangum, & John Miller.* 81, 5, 35-B13 (1992)

Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)

Determination of the He^+/H^+ Ratio from α, β, and γ Radio Recombination Lines. *M. Peimbert, L. F. Rodríguez, T. M. Bania, R. T. Rood, & T. L. Wilson.* 395, 484, 148-E9 (1992)

Peculiar Velocities of Clusters in the Perseus-Pisces Supercluster. *M. Han & J. R. Mould.* 396, 453, 163-B1 (1992)

A High-Resolution 21 Centimeter Line Study of Infrared Cirrus. *G. Joncas, F. Boulanger, & P. E. Dewdney.* 397, 165, 170-A10 (1992)

Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

[C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

H I Imaging of Four Quasar-Galaxy Pairs: The Parent Galaxies of Low-Redshift Quasar Absorption Systems. *C. L. Carilli & J. H. van Gorkom.* 399, 373, 202-E7 (1992)

NGC 4027: An Interacting One-armed Spiral Galaxy with a Warped Ring. *Bikram Phookun, Lee G. Mundy, Peter J. Teuben, & Richard J. Wainscoat.* 400, 516, 216-F10 (1992)

Radio Continuum and Radio Recombination Line Observations of Sagittarius B1 and G0.6–0.0. *David M. Mehringer, F. Yusef-Zadeh, Patrick Palmer, & W. M. Goss.* 401, 168, 223-B1 (1992)

Heating of H II Regions with Application to the Galactic Center. *Philip R. Maloney, David J. Hollenbach, & Charles H. Townes.* 401, 559, 229-E5 (1992)

RADIO LINES: MOLECULAR: CIRCUMSTELLAR

Radial Velocities of Carbon Stars: CO versus Optical Measurements. *Cecilia Barnbaum.* 385, 694, 21-F10 (1992)

Detection of SiN in IRC +10216. *B. E. Turner.* 388, L35, 52-D1 (1992)

The Magnetic Collimation of Bipolar Outflows. I. Adiabatic Simulations. *James M. Stone & Michael L. Norman.* 389, 297, 63-F1 (1992)

Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *Jesús Martín-Pintado & Rafael Bachiller.* 391, L93, 99-G12 (1992)

Upper Limits for CO in the Old Galactic Novae NQ Vulpeculae, QU Vulpeculae, and Nova Vulpeculae 1987 from IRAM Observations. *Steven N. Shore & Jonathan Braine.* 392, L59, 113-C1 (1992)

SO and SO_2 in Mass-Loss Envelopes of Red Giants: Probes of Nonequilibrium Circumstellar Chemistry and Mass-Loss Rates. *Raghvendra Sahai & Peter G. Wannier.* 394, 320, 132-A3 (1992)

Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

A Sensitive Search for Rotational Lines of Vibrationally Excited HC_5N in IRC +10°216. *M. B. Bell, P. A. Feldman, & L. W. Avery.* 396, 643, 165-D1 (1992)

High-Velocity HCO^+ Emission from L1551 IRS 5: Evidence for Wind-Cloud Interactions. *Alexander Rudolph.* 397, L111, 181-D13 (1992)

Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)

Mass-Loss Rates for *IRAS*-bright Red Giants: A Revised Model of Circumstellar CO Emission. *Joel H. Kastner.* 401, 337, 225-B11 (1992)

CO in the Cometary Globules of the Helix Nebula. *P. J. Huggins, R. Bachiller, P. Cox, & T. Forveille.* 401, L43, 227-F7 (1992)

A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths. *L. W. Avery, T. Amano, M. B. Bell, P. A. Feldman, J. W. C. Johns, J. M. MacLeod, H. E. Matthews, D. C. Morton, J. K. G. Watson, B. E. Turner, S. S. Hayashi, G. D. Watt, & A. S. Webster.* 83, 363, 62-G3 (1992)

RADIO LINES: MOLECULAR: INTERSTELLAR

Dense Cores in Dark Clouds. VII. Line Width–Size Relations. *G. A. Fuller & P. C. Myers.* 384, 523, 8-F1 (1992)

The Molecular Core in G34.3+0.2: Millimeter Interferometric Observations of HCO^+, $H^{13}CN$, $HC^{15}N$, and SO. *Patricia Carral & William J. Welch.* 385, 244, 15-A4 (1992)

Strongly Shocked Interstellar Gas in IC 443. I. High-Resolution Molecular Observations. *Z. Wang & N. Z. Scoville.* 386, 158, 26-B3 (1992)

A CO $J = 2 \rightarrow 1$ Study of the Outflow Sources GL 490, GS 2591, M8E-IR, and W3 IRS 5. *George F. Mitchell, Tatsuhiko I. Hasegawa, & Jason Schella.* 386, 604, 32-G6 (1992)

A CO Study of Sharpless 171: Evidence for Interaction between the H II Region and Its Neighboring Molecular Cloud. *Ji Yang & Yasuo Fukui.* 386, 618, 33-A8 (1992)

Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

Kinematics and Morphology of Material Occulting ζ Ophiuchi. *H. S. Liszt.* 390, 226, 76-G1 (1992)

Global Star Formation in the L1630 Molecular Cloud. *Elizabeth A. Lada.* 393, L25, 120-D7 (1992)

Problems with the Standard Theory of Three-dimensional Masers. *David A. Neufeld.* 393, L37, 120-F1 (1992)

IRAS 14070+0525: An OH Gigamaser at $z = 0.265$. *Willem A. Baan, James Rhoads, Karl Fisher, Daniel R. Altschuler, & Aubrey Haschick.* 396, L99, 167-E1 (1992)

First-Order Fermi Acceleration in Spherically Symmetric Flows: Solutions Including Quadratic Losses. *Peter A. Becker.* 397, 88, 169-B6 (1992)

Submillimeter Detection of Extragalactic C I Emission: IC 342. *Thomas H. Büttgenbach, Jocelyn Keene, T. G. Phillips, & Christopher K. Walker.* 397, L15, 173-C1 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

Aperture Synthesis CO ($J = 3$–2) Observations of a Protogalaxy Candidate IRAS F10214+4724. *R. Kawabe, K. Sakamoto, S. Ishizuki, & M. Ishiguro.* 397, L23, 173-C12 (1992)

The Detection of a New, Nonmasing Transition of Methanol at 28.3 GHz. *V. I. Slysh, S. V. Kalenskii, & I. E. Val'tts.* 397, L43, 173-F3 (1992)

Detection of the Quadrupole Hyperfine Structure in $HCNH^+$. *L. M. Ziurys, A. J. Apponi, & J. T. Yoder.* 397, L123, 181-F6 (1992)

Laboratory Measurement of the Rotational Spectrum of HCCS. *J. M. Vrtilek, C. A. Gottlieb, E. W. Gottlieb, W. Wang, & P. Thaddeus.* 398, L73, 188-C7 (1992)

Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

Interstellar H_3O^+ and Its Relation to the O_2 and H_2O Abundances. *T. G. Phillips, Ewine F. van Dishoeck, & Jocelyn Keene.* 399, 533, 204-E1 (1992)

Discovery of Neutral Hydrogen 21 Centimeter Absorption at Redshift 0.25 toward PKS 1413+135. *C. L. Carilli, Eric S. Perlman, & John T. Stocke.* 400, L13, 214-C1 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

The Environments of Young Stars: Mid-Infrared and Molecular Line Imaging. *Eric Keto, Deanne Proctor, Roger Ball, John Arens, & Garrett Jernigan.* 401, L113, 233-E11 (1992)

RADIO SOURCES: LINES

High-Velocity OH in Absorption: A New Tracer of Shocked Gas in Outflows? *A. Ruiz, L. F. Rodríguez, J. Cantó, & I. F. Mirabel.* 398, 139, 183-F3 (1992)

RADIO SOURCES: 21 CM RADIATION

The Relation of Dust and Atomic Gas Properties of Galaxies. *John G. Spitzak & Stephen E. Schneider.* 393, 126, 115-F1 (1992)

RELATIVITY

The Effects of Radiation Drag on Radial, Relativistic Hydromagnetic Winds. *Zhi-yun Li, Mitchell C. Begelman, & Tzihong Chiueh.* 384, 567, 9-C1 (1992)

The Magnitude-Redshift Relation. *Allen I. Janis.* 385, 391, 18-B1 (1992)

Astrophysical Jets and Theories of Gravitation. *Mario Livio & Nathan Rosen.* 387, 458, 44-D5 (1992)

On Modeling a Relativistic Hierarchical (Fractal) Cosmology by Tolman's Spacetime. I. Theory. *Marcelo B. Ribeiro.* 388, 1, 49-B1 (1992)

Light Curves of Rotating, Oscillating Neutron Stars. *T. E. Strohmayer.* 388, 138, 50-F9 (1992)

Equilibrium Stellar Systems with Spindle Singularities. *Stuart L. Shapiro & Saul A. Teukolsky.* 388, 287, 53-G10 (1992)

Rotational Properties of Strange Stars. *M. Colpi & J. C. Miller.* 388, 513, 56-F1 (1992)

On the Pulsations of Relativistic Accretion Disks and Rotating Stars: The Cowling Approximation. *James R. Ipser & Lee Lindblom.* 389, 392, 64-G1 (1992)

A Description of Semidegenerate Self-gravitating Spheres of Fermions. *M. Membrado, A. F. Pacheco, & J. Sañudo.* 390, 88, 75-B7 (1992)

PSR 0655+64: An Astrophysical Laboratory for Testing Relativistic Gravity Theories. *Itzhak Goldman.* 390, 494, 81-D11 (1992)

Application of the Improved Hartle Method for the Construction of General Relativistic Rotating Neutron Star Models. *F. Weber & N. K. Glendenning.* 390, 541, 82-B1 (1992)

On the Thermal Conductivity due to Collisions between Relativistic Degenerate Electrons. *F. X. Timmes.* 390, L107, 85-D9 (1992)

Cosmic Curvature and Condensation. *Martin Harwit.* 392, 394, 107-C1 (1992)

Neutron Stars and Gravitational Scalars. *Helmut W. Zaglauer.* 393, 685, 124-D1 (1992)

Diskoseismology: Probing Accretion Disks. II. *G*-Modes, Gravitational Radiation Reaction, and Viscosity. *Michael A. Nowak & Robert V. Wagoner.* 393, 697, 124-E1 (1992)

A Physical Interpretation of Kaluza-Klein Cosmology. *Paul S. Wesson.* 394, 19, 128-C9 (1992)

Cosmological Perturbations and the Physical Meaning of Gauge-invariant Variables. *Marco Bruni, Peter K. S. Dunsby, & George F. R. Ellis.* 395, 34, 140-E7 (1992)

Covariant Perturbations in a Multifluid Cosmological Medium. *Peter K. S. Dunsby, Marco Bruni, & George F. R. Ellis.* 395, 54, 140-G1 (1992)

First-Order Fermi Acceleration in Spherically Symmetric Flows: Solutions Including Quadratic Losses. *Peter A. Becker.* 397, 88, 169-B6 (1992)

Three-dimensional Magnetic Field Configurations in Relativistic Magnetohydrodynamic Outflows. *Yu-Qing Lou.* 397, L67, 174-A10 (1992)

Angle-dependent Green's Functions for Relativistic Compton Reflection. *Xin-Min Hua & Richard E. Lingenfelter.* 397, 591, 178-D1 (1992)

The Perihelion Problem in Kaluza-Klein Gravity. *Paul H. Lim & Paul S. Wesson.* 397, L91, 181-B8 (1992)

Relativistic Two-Moment Neutrino Transport. *J. Cernohorsky & Ch. G. van Weert.* 398, 190, 184-C1 (1992)

Spin-up of a Rapidly Rotating Star by Angular Momentum Loss: Effects of General Relativity. *Gregory B. Cook, Stuart L. Shapiro, & Saul A. Teukolsky.* 398, 203, 184-D1 (1992)
Radiative Equilibrium in Rapidly Expanding Shells. *P. H. Hauschildt.* 398, 224, 184-E9 (1992)
Nonstationary Gravitational Lenses and the Fermat Principle. *Valerio Faraoni.* 398, 425, 189-D1 (1992)
Determining the Nuclear Equation of State from Neutron-Star Masses and Radii. *Lee Lindblom.* 398, 569, 191-C1 (1992)
Newton's Laws in a Cosmological Model. *Mark Israelit & Nathan Rosen.* 400, 21, 209-C7 (1992)
Radiation from a Relativistic Magnetized Star. *V. Belinsky & R. Ruffini.* 401, L27, 227-D7 (1992)
Cylindrical Universes with Heat and Null Radiation Flow. *L. K. Patel & Naresh Dadhich.* 401, 433, 228-B1 (1992)
General Relativistic Structure of Star-Toroid Systems. *Shogo Nishida, Yoshiharu Eriguchi, & Antonio Lanza.* 401, 618, 230-C1 (1992)

SHOCK WAVES

Spherically Symmetric, Polytropic Flow. *T. Theuns & M. David.* 384, 587, 9-D9 (1992)
Acoustic Instability in Cosmic-Ray Mediated Shocks. *Hyesung Kang, T. W. Jones, & Dongsu Ryu.* 385, 193, 14-D1 (1992)
Strongly Shocked Interstellar Gas in IC 443. I. High-Resolution Molecular Observations. *Z. Wang & N. Z. Scoville.* 386, 158, 26-B3 (1992)
Knots in Stellar Jets from Time-dependent Sources. *A. C. Raga & Lev Kofman.* 386, 222, 27-A1 (1992)
Radiative Shocks and Hydrogen Molecules in Pregalactic Gas: The Effects of Postshock Radiation. *Hyesung Kang & Paul R. Shapiro.* 386, 432, 30-F13 (1992)
Instabilities in Astrophysical Jets. I. Linear Analysis of Body and Surface Waves. *Jun-Hui Zhao, Jack O. Burns, Philip E. Hardee, & Michael L. Norman.* 387, 69, 37-G7 (1992)
Instabilities in Astrophysical Jets. II. Numerical Simulations of Slab Jets. *Jun-Hui Zhao, Jack O. Burns, Michael L. Norman, & Martin E. Sulkanen.* 387, 83, 38-B1 (1992)
Standing Shocks in Accretion Disks and the Spectra of Active Galactic Nuclei. *Sandip K. Chakrabarti & Paul J. Wiita.* 387, L21, 43-C4 (1992)
The Molecular Hydrogen Emission around L1551 IRS 5: Shock-Heated Molecular Gas at the Base of the Molecular Outflow. *Takuya Yamashita & Motohide Tamura.* 387, L93, 48-E5 (1992)
Dynamics of Wind Bubbles and Superbubbles. I. Slow Winds and Fast Winds. *Bon-Chul Koo & Christopher F. McKee.* 388, 93, 50-C1 (1992)
Dynamics of Wind Bubbles and Superbubbles. II. Analytic Theory. *Bon-Chul Koo & Christopher F. McKee.* 388, 103, 50-C12 (1992)
Magnetic Fields and Radiative Shocks in Protogalaxies and the Origin of Globular Clusters. *Paul R. Shapiro, Alejandro Clocchiatti, & Hyesung Kang.* 389, 269, 63-C11 (1992)
Can a Closure Mass Neutrino Help Solve the Supernova Shock Reheating Problem? *George M. Fuller, R. Mayle, Bradley S. Meyer, & James R. Wilson.* 389, 517, 67-G10 (1992)
Stellar Wind Collision and X-Ray Generation in Massive Binaries. *V. V. Usov.* 389, 635, 69-C10 (1992)
Alfvénically Driven Slow Shocks in the Solar Chromosphere and Corona. *Joseph V. Hollweg.* 389, 731, 70-D10 (1992)
Switch Shocks in Molecular Clouds. I. Plane-parallel Magneto-hydrodynamic Analysis. *Michael D. Smith.* 390, 447, 81-A1 (1992)
Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)
Spiral Shocks and Subday Variability in SS 433. *Sandip K. Chakrabarti & T. Matsuda.* 390, 639, 83-C1 (1992)
Relativistic, Perpendicular Shocks in Electron-Positron Plasmas. *Yves A. Gallant, Masahiro Hoshino, A. Bruce Langdon, Jonathan Arons, & Claire E. Max.* 391, 73, 87-A1 (1992)
Velocity Structure in Optical CH^+ Lines toward HD 190603 and Implications for the Formation of CH^+. *M. M. Allen & Theodore P. Snow.* 391, 152, 87-G13 (1992)
The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)
Infrared Morphology of Mass Outflow from GL 2591. *Motohide Tamura & Takuya Yamashita.* 391, 710, 96-G4 (1992)
Ram-Pressure Confinement of a Hypersonic Jet. *Chris Loken, Jack O. Burns, David A. Clarke, & Michael L. Norman.* 392, 54, 101-F1 (1992)
Hydrodynamic Instabilities in Supernova Remnants: Self-similar Driven Waves. *Roger A. Chevalier, John M. Blondin, & Robert T. Emmering.* 392, 118, 102-D9 (1992)
Two-dimensional Slow Shock Reconnection. *Y. C. Whang.* 392, 637, 110-B9 (1992)
The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)
Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)
The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)
Constraints on the Acceleration of Anomalous Cosmic Rays. *J. R. Jokipii.* 393, L41, 120-F8 (1992)
Shock Breakout in SN 1987A. *Lisa Ensman & Adam Burrows.* 393, 742, 125-A10 (1992)
A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)
Viscous and Inertial Effects at Cosmic-Ray Shocks. *J. R. Jokipii & L. L. Williams.* 394, 184, 130-C8 (1992)
Bow Shock Models for the Velocity Structure of Ultracompact H II Regions. *Dave Van Buren & Mordecai-Mark Mac Low.* 394, 534, 136-A7 (1992)
Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)
Pulsar Nebulae in Supernovae. *Roger A. Chevalier & Claes Fransson.* 395, 540, 149-E3 (1992)
Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)
Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chernin & Colin R. Masson.* 396, L35, 160-F8 (1992)
Diffusive Acceleration of Electrons in SN 1987A. *Lewis Ball & J. G. Kirk.* 396, L39, 160-G1 (1992)
Wave Diffraction in Weak Cosmic-Ray–modified Shocks. *G. M. Webb & G. P. Zank.* 396, 549, 164-C9 (1992)
Cosmic-Ray–modified Supernova Remnant Shocks. *T. W. Jones & Hyesung Kang.* 396, 575, 164-E9 (1992)
Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)
A Three-dimensional Axisymmetric Photochemical Flow Model of the Cometary "Inner" Shock Layer. *M. C. Damas & D. A. Mendis.* 396, 704, 166-B1 (1992)
Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)
Detection of Interstellar SO^+: A Diagnostic of Dissociative Shock Chemistry. *B. E. Turner.* 396, L107, 167-F1 (1992)
Steady and Nonsteady Siphon Flow in Hot Coronal Loops. *T. D. Robb & P. S. Cally.* 397, 329, 172-A1 (1992)
Non-LTE Radiating Acoustic Shocks and Ca II K2V Bright Points. *Mats Carlsson & Robert F. Stein.* 397, L59, 173-G11 (1992)
Inhomogeneous Cosmologies with Shock Waves. *Anna Curir, Mauro Francaviglia, & Enric Verdaguer.* 397, 390, 175-E3 (1992)
An Off-Center Point Explosion in a Radially Stratified Medium: Kompaneets Approximation. *D. G. Korycansky.* 398, 184, 184-B9 (1992)
Relativistic Two-Moment Neutrino Transport. *J. Cernohorsky & Ch. G. van Weert.* 398, 190, 184-C1 (1992)

Noise-driven Radiative Shocks. II. Further Implications for the Quasi-periodic Oscillations of the AM Herculis Objects. *Kent S. Wood, James N. Imamura, & Michael T. Wolff.* 398, 593, 191-E1 (1992)

Tests of Shock Chemistry in IC 443G. *B. E. Turner, Kin-Wing Chan, S. Green, & D. A. Lubowich.* 399, 114, 196-E12 (1992)

A Comparison of Models for Supernova Remnants Including Cosmic Rays. *Hyesung Kang & L. O'C. Drury.* 399, 182, 197-D11 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

Electron Acceleration in Tycho's and Kepler's Supernova Remnants: Spectral Evidence of Fermi Shock Acceleration. *Stephen P. Reynolds & Donald C. Ellison.* 399, L75, 201-B1 (1992)

Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

Mid-Infrared Rotational Line Emission from Interstellar Molecular Hydrogen. *Michael G. Burton, D. J. Hollenbach, & A. G. G. M. Tielens.* 399, 563, 204-G7 (1992)

Band Splitting in Solar Type II Radio Bursts. *R. A. Treumann & J. LaBelle.* 399, L167, 208-E7 (1992)

Shock Wave Emergence at the Stellar Surface and the Subsequent Gas Expansion into a Vacuum: The Sphericity Involvement. *Ya. M. Kazhdan & Marina Murzina.* 400, 192, 211-C9 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

Spectacular Herbig-Haro Objects in the Carina Region. *K. Ogura & J. R. Walsh.* 400, 248, 212-A7 (1992)

Magnetohydrodynamic Wave Damping by Cosmic-Ray Viscosity. *Ahmed Boulares & Gregor Morfill.* 400, 622, 218-B6 (1992)

Spectroscopy of the Companion and Bow-Shock Nebula of PSR 1957+20. *Thomas L. Aldcroft, Roger W. Romani, & James M. Cordes.* 400, 638, 218-C13 (1992)

Electron Injection in Collisionless Shocks. *Amir Levinson.* 401, 73, 222-A1 (1992)

Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope. *Olaf Vancura, William P. Blair, Knox S. Long, Arthur F. Davidsen, Charles W. Bowers, W. Van Dyke Dixon, Samuel T. Durrance, Paul D. Feldman, Henry C. Ferguson, Richard C. Henry, Randy A. Kimble, Gerard A. Kriss, Jeffrey W. Kruk, & H. Warren Moos.* 401, 220, 223-G1 (1992)

SOLAR SYSTEM: FORMATION

Large Electric Fields in Acoustic Waves and the Stimulation of Lightning Discharges. *W. Pilipp, T. W. Hartquist, & G. E. Morfill.* 387, 364, 41-D13 (1992)

On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)

^{26}Al and Time Scales of the Solar Nebula. *Kurt Liffman.* 398, L111, 194-F1 (1992)

Observational Constraints on Solar Nebula Nitrogen Chemistry: N_2/NH_3. *Maria Womack, Susan Wyckoff, & L. M. Ziurys.* 401, 728, 231-E6 (1992)

SOLAR SYSTEM: GENERAL

The Perihelion Problem in Kaluza-Klein Gravity. *Paul H. Lim & Paul S. Wesson.* 397, L91, 181-B8 (1992)

STARS: ABUNDANCES

Evolutionary Models of Halo Stars with Rotation. II. Effects of Metallicity on Lithium Depletion, and Possible Implications for the Primordial Lithium Abundance. *M. H. Pinsonneault, Constantine P. Deliyannis, & P. Demarque.* 78, 179, 4-B3 (1992)

Non–LTE, Line-blanketed Model Atmospheres for Late O- and Early B-Type Stars. *James A. Grigsby, Nancy D. Morrison, & Lawrence S. Anderson.* 78, 205, 4-D9 (1992)

Classical Nova Models with Accretion Heating at Accretion Rates of 10^{-9} and 10^{-10} $M\odot$ per Year. *Dina Prialnik & Attay Kovetz.* 385, 665, 21-D1 (1992)

The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

The Evolution through H and He Burning of Galactic Cluster Stars. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 78, 517, 9-G11 (1992)

Chemical Composition of Open Clusters. III. Iron and Carbon in F Dwarfs in Coma, Praesepe, and M67. *Eileen D. Friel & Ann Merchant Boesgaard.* 387, 170, 39-A13 (1992)

HEAO 3 Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)

CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

Carbon, Nitrogen, and Oxygen Abundances in Early B-Type Stars. *Douglas R. Gies & David L. Lambert.* 387, 673, 47-B1 (1992)

The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

The Chemical Composition of Magellanic Cloud Cepheids and Nonvariable Supergiants. *R. Earle Luck & David L. Lambert.* 79, 303, 18-E3 (1992)

Carbon and Nitrogen Abundances Determined from Transition Layer Lines. *Erika Böhm-Vitense & José Mena-Werth.* 390, 253, 77-B4 (1992)

The Identification of Highly Ionized Metal Species in the Hot DA1 White Dwarf G191-B2B with the *Hubble Space Telescope* Faint Object Spectrograph. *Edward M. Sion, Ralph C. Bohlin, Richard W. Tweedy, & Gerard P. Vauclair.* 391, L29, 92-B11 (1992)

Evolution of Heavy-Element Abundances as a Constraint on Sites for Neutron-Capture Nucleosynthesis. *G. J. Mathews, G. Bazan, & J. J. Cowan.* 391, 719, 97-A1 (1992)

Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *Jesús Martín-Pintado & Rafael Bachiller.* 391, L93, 99-G12 (1992)

Lithium Abundances in Classical and Weak T Tauri Stars. *Antonio Magazzù, Rafael Rebolo, & Yakov V. Pavlenko.* 392, 159, 103-A1 (1992)

A Measurement of the Primordial Helium Abundance Using μ Cassiopeiae. *James W. Haywood, Dennis J. Hegyi, & Donald H. Gudehus.* 392, 172, 103-B1 (1992)

Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

The Creation of Superrich Lithium Giants. *I.-Juliana Sackmann & Arnold I. Boothroyd.* 392, L71, 113-D3 (1992)

The Structure of Horizontal-Branch Models. I. The Zero-Age Horizontal Branch. *Ben Dorman.* 80, 701, 33-B5 (1992)

A 2.18 to 2.28 Micron Study of the Stellar Population in the Nucleus of M82. *Niall I. Gaffney & Dan F. Lester.* 394, 139, 129-F9 (1992)

The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

Hot Post–Asymptotic Giant Branch Stars at High Galactic Latitudes. *R. J. H. McCausland, E. S. Conlon, P. L. Dufton, & F. P. Keenan.* 394, 298, 131-F5 (1992)

SO and SO_2 in Mass-Loss Envelopes of Red Giants: Probes of Nonequilibrium Circumstellar Chemistry and Mass-Loss Rates. *Raghvendra Sahai & Peter G. Wannier.* 394, 320, 132-A3 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. II. Isochrones and Luminosity Functions. *Peter A. Bergbusch & Don A. VandenBerg.* 81, 163, 37-C11 (1992)

Light-Curve Analysis of Classical Novae. *Mariko Kato & Icko Iben, Jr.* 394, L47, 139-C7 (1992)

Mass Loss and a Possible Population II Lithium Dip. *David S. P. Dearborn, David N. Schramm, & L. M. Hobbs.* 394, L61, 139-E1 (1992)

Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

Lithium Dilution through Main-Sequence Mass Loss. *Fritz J. Swenson & John Faulkner.* 395, 654, 151-D3 (1992)

Sodium, Aluminum, and Oxygen Abundance Variations in Giants in the Globular Cluster M4. *Jeremy J. Drake, Verne V. Smith, & Nicholas B. Suntzeff.* 395, L95, 154-A10 (1992)

Hubble Space Telescope FOS Observations of KPD 0005+5106: A Subluminous WN-WC Descendant with Ongoing Mass Outflow? *Edward M. Sion & Ronald A. Downes.* 396, L79, 167-B7 (1992)

Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

Helium Gravitational Settling in the Envelopes of Evolving Main-Sequence A and F Stars. *Jacques Richer, Georges Michaud, & Charles R. Proffitt.* 82, 329, 54-A1 (1992)

Infrared Colors of Low-Mass Stars. *S. K. Leggett.* 82, 351, 54-C1 (1992)

Sodium Abundance Variations in Metal-poor Dwarfs. *William J. Spiesman.* 397, L103, 181-D1 (1992)

The Neutrino Process and ^{9}Be in the Early Universe. *R. A. Malaney.* 398, L45, 187-G1 (1992)

A Multiwavelength Study of Nova QU Vulpeculae 1984. *Pedro Saizar, Sumner Starrfield, Gary J. Ferland, R. Mark Wagner, James W. Truran, Scott J. Kenyon, Warren M. Sparks, Robert E. Williams, & L. L. Stryker.* 398, 651, 192-B13 (1992)

A Study of Metal Abundance Patterns in Cool White Dwarfs. I. Time-dependent Calculations of Gravitational Settling. *J. Dupuis, G. Fontaine, C. Pelletier, & F. Wesemael.* 82, 505, 56-A7 (1992)

Two New Lithium-deficient Population II Dwarfs. *J. A. Thorburn.* 399, L83, 201-B13 (1992)

Chemical Evolution of the Orion Association. I. The Oxygen Abundance of Main-Sequence B Stars. *Katia Cunha & David L. Lambert.* 399, 586, 205-B7 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

Core Velocity Dispersions and Metallicities of Three Globular Clusters Belonging to the Fornax Dwarf Spheroidal Galaxy. *P. Dubath, G. Meylan, & M. Mayor.* 400, 510, 216-F1 (1992)

A Distance-independent Calibration of the Luminosity of Type Ia Supernovae and the Hubble Constant. *Bruno Leibundgut & Philip A. Pinto.* 401, 49, 221-F1 (1992)

The Galactic Globular Cluster System: Empirical Relationship between Light-to-Mass Ratio and Metallicity. *Filippina Caputo & Renato De Santis.* 401, 260, 224-C1 (1992)

An Interpretation of the Spectral Properties of Hot Hydrogen-rich White Dwarfs with Stratified H/He Model Atmospheres. *Stéphane Vennes & Gilles Fontaine.* 401, 288, 224-E7 (1992)

The Abundance of Boron in Three Halo Stars. *Douglas K. Duncan, David L. Lambert, & Michael Lemke.* 401, 584, 229-G6 (1992)

Oxygen-rich Semiregular and Irregular Variables. *M. Jura & S. G. Kleinmann.* 83, 329, 62-D5 (1992)

STARS: ACTIVITY

First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

Evidence of Differential Surface Rotation in the Solar-Type Star HD 114710. *Robert A. Donahue & Sallie L. Baliunas.* 393, L63, 127-D1 (1992)

Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

The Activity Cycle of σ Draconis. *David F. Gray, Sallie L. Baliunas, G. W. Lockwood, & Brian A. Skiff.* 400, 681, 219-A1 (1992)

STARS: ATMOSPHERES

Non–LTE, Line-blanketed Model Atmospheres for Late O- and Early B-Type Stars. *James A. Grigsby, Nancy D. Morrison, & Lawrence S. Anderson.* 78, 205, 4-D9 (1992)

X-Ray–heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations. *Suzanne L. Hawley & George H. Fisher.* 78, 565, 10-F1 (1992)

On the Influence of the Convective Efficiency on the Determination of the Atmospheric Parameters of DA White Dwarfs. *P. Bergeron, F. Wesemael, & G. Fontaine.* 387, 288, 40-E1 (1992)

The Eclipsing Binary AI Phoenicis: New Results Based on an Improved Light Curve Analysis Program. *E. F. Milone, C. R. Stagg, & R. L. Kurucz.* 79, 123, 14-E11 (1992)

Photon Bubbles: Overstability in a Magnetized Atmosphere. *Jonathan Arons.* 388, 561, 57-C1 (1992)

Ionization and Excitation in Cool Giant Stars. I. Hydrogen and Helium. *Donald G. Luttermoser & Hollis R. Johnson.* 388, 579, 57-D7 (1992)

The Constitution of the Atmospheric Layers and the Extreme Ultraviolet Spectrum of Hot Hydrogen-rich White Dwarfs. *Stéphane Vennes.* 390, 590, 82-F1 (1992)

Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

Spherically Symmetric, Expanding, Non–LTE Model Atmospheres for Novae during Their Early Stages. *P. H. Hauschildt, R. Wehrse, S. Starrfield, & G. Shaviv.* 393, 307, 118-A4 (1992)

Two-Stream, Second-Order, Probabilistic Radiative Transfer. *I. S. Krinsky & R. C. Puetter.* 393, 716, 124-F10 (1992)

Hot Post–Asymptotic Giant Branch Stars at High Galactic Latitudes. *R. J. H. McCausland, E. S. Conlon, P. L. Dufton, & F. P. Keenan.* 394, 298, 131-F5 (1992)

Helium Gravitational Settling in the Envelopes of Evolving Main-Sequence A and F Stars. *Jacques Richer, Georges Michaud, & Charles R. Proffitt.* 82, 329, 54-A1 (1992)

On the Interaction between Dust and Gas in Late-Type Stellar Atmospheres and Winds. *K. B. MacGregor & R. E. Stencel.* 397, 644, 179-A13 (1992)

Why All Stars Should Possess Circumstellar Temperature Inversions. *Jack D. Scudder.* 398, 319, 185-F11 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

An Interpretation of the Spectral Properties of Hot Hydrogen-rich White Dwarfs with Stratified H/He Model Atmospheres. *Stéphane Vennes & Gilles Fontaine.* 401, 288, 224-E7 (1992)

STARS: BINARIES: CLOSE

Low-Mass X-Ray Binary Evolution and the Origin of Millisecond Pulsars. *Juhan Frank, Andrew R. King, & Jean-Pierre Lasota.* 385, L45, 23-C8 (1992)

On the Power Spectra of the Wind-fed X-Ray Binary Pulsar GX 301−2. *Mauro Orlandini & G. E. Morfill.* 386, 703, 34-A9 (1992)

Rare Thermonuclear Explosions in Short-Period Cataclysmic Variables, with Possible Application to the Nova-like Red Variable in the Galaxy M31. *Icko Iben, Jr., & Alexander V. Tutukov.* 389, 369, 64-E1 (1992)

On the Interior Structure of Contact Binaries and the Light-Curve Paradox. *Jean-Louis Tassoul.* 389, 375, 64-E9 (1992)

The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line. *A. Goldwurm, J. Ballet, B. Cordier, J. Paul, L. Bouchet, J. P. Roques, D. Barret, P. Mandrou, R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, V. Kovtunenko, R. Kremnev, & K. Sukhanov.* 389, L79, 73-E6 (1992)

Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)

Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

Superhump Timing in SU Ursae Majoris Systems: Implications of the Data for the Precessing Disk Model. *Lawrence A. Molnar & Henry A. Kobulnicky.* 392, 678, 110-F3 (1992)

The Role of the Dwarf Nova Period Distribution in Understanding the Evolution of Cataclysmic Variables. *Allen W. Schafter.* 394, 268, 131-C12 (1992)

Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5−1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

Detectability of the Gravitational Wave Signal from a Close Neutron Star Binary with Mass Transfer. *Piotr Jaranowski & Andrzej Krolak.* 394, 586, 136-F1 (1992)
A Comparative Study of Synchronization and Circularization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 395, 259, 143-D1 (1992)
Long-Term Variability in Low-Mass X-Ray Binaries: A Study Using Data from *Vela 5B*. *Alan P. Smale & James C. Lochner.* 395, 582, 150-B13 (1992)
Linear Stability Analysis of Spherical Accretion Flows onto Compact Objects. *John C. Houck & Roger A. Chevalier.* 395, 592, 150-D1 (1992)
On the Efficiency of Ekman Pumping for Synchronization in Close Binaries. *Monique Tassoul & Jean-Louis Tassoul.* 395, 604, 150-E5 (1992)
X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)
The Radial Velocity of the White Dwarf Giclas 29-38. *C. Barnbaum & B. Zuckerman.* 396, L31, 160-F1 (1992)
Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)
Tidal Heating and Mass Loss in Neutron Star Binaries: Implications for Gamma-Ray Burst Models. *P. Mészáros & M. J. Rees.* 397, 570, 178-A12 (1992)
Coalescing Binary Neutron Stars. *Christopher S. Kochanek.* 398, 234, 184-F7 (1992)
Excitation of Gravity Waves in Common Envelopes. *Noam Soker.* 399, 185, 197-E3 (1992)
Photometric Imaging of VW Cephei. *Paul D. Hendry, Stefan W. Mochnacki, & Andrew Collier Cameron.* 399, 246, 198-C8 (1992)
Populations of Low-Mass Black Hole Binaries. *Roger W. Romani.* 399, 621, 205-F1 (1992)
Explosion of a Supernova with a Red Giant Companion. *E. Livne, Y. Tuchman, & J. C. Wheeler.* 399, 665, 206-B11 (1992)
Evidence for Periodic Modulation of Presupernova Mass Loss from the Progenitor of SN 1979C. *Kurt W. Weiler, Schuyler D. Van Dyk, James E. Pringle, & Nino Panagia.* 399, 672, 206-C5 (1992)
Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)
Tidal Interactions of Inspiraling Compact Binaries. *Lars Bildsten & Curt Cutler.* 400, 175, 211-B1 (1992)
Spectroscopy of the Companion and Bow-Shock Nebula of PSR 1957+20. *Thomas L. Aldcroft, Roger W. Romani, & James M. Cordes.* 400, 638, 218-C13 (1992)
Hydrodynamical Evolution of Coalescing Binary Neutron Stars. *Frederic A. Rasio & Stuart L. Shapiro.* 401, 226, 223-G9 (1992)
Dynamics of Eccentric Disks with Application to Superhump Binaries. *Stephen H. Lubow.* 401, 317, 225-A1 (1992)
A Binary Origin for FU Orionis Stars. *Ian Bonnell & Pierre Bastien.* 401, L31, 227-E1 (1992)
EXOSAT Observations of the Be/X-Ray Binary 4U 2206+54. *Priyamvada Saraswat & Krishna M. V. Apparao.* 401, 678, 231-A1 (1992)
EXOSAT Observations of the X-Ray Binary Pulsar 4U 1538−52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

STARS: BINARIES: ECLIPSING

The Continuum Eclipse of PSR 1957+20. *A. S. Fruchter & W. M. Goss.* 384, L47, 11-C9 (1992)
Eclipse Studies of the Dwarf Nova HT Cassiopeiae. II. White Dwarf and Accretion Disk. *Janet H. Wood, Keith Horne, & Stephane Vennes.* 385, 294, 15-E6 (1992)
A Mechanism for Orbital Period Modulation in Close Binaries. *James H. Applegate.* 385, 621, 20-G4 (1992)
The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)
Consequences of the Star-Stream Interaction in Algol. *Mercedes T. Richards.* 387, 329, 41-A12 (1992)
Properties of the Massive X-Ray Binary 4U 1700−37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)
PSR 1259−63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)
Secondaries of Eclipsing Binaries. VII. The Spectroscopic Triple and Visual Double V505 Sagittarii. *Jocelyn Tomkin.* 387, 631, 46-E1 (1992)
Orbital Angular Momentum Loss in PSR 1957+20. *Menashe Banit & Jacob Shaham.* 388, L19, 52-B11 (1992)
The Eclipsing Binary AI Phoenicis: New Results Based on an Improved Light Curve Analysis Program. *E. F. Milone, C. R. Stagg, & R. L. Kurucz.* 79, 123, 14-E11 (1992)
The GDDSYN Light Curve Synthesis Method. *Paul D. Hendry & Stefan W. Mochnacki.* 388, 603, 57-F7 (1992)
Modeling of the Eclipsing Binaries in the Globular Cluster NGC 5466. *J. Kallrath, E. F. Milone, & C. R. Stagg.* 389, 590, 68-G1 (1992)
X-Ray Scattering and Fluorescence in the Wind of a Massive X-Ray Binary. *W. Lewis, S. Rappaport, A. Levine, & F. Nagase.* 389, 665, 69-F3 (1992)
Eclipse Maps of the Accretion Disk in the Classical Nova V Persei. *Janet H. Wood, Timothy M. C. Abbott, & Allen W. Shafter.* 393, 729, 124-G10 (1992)
Ginga Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)
Pulsar PSR 1744−24A: Timing, Eclipses, and the Evolution of Neutron Star Binaries. *D. J. Nice & S. E. Thorsett.* 397, 249, 171-A12 (1992)
Ginga Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)
Ginga Observations of the Dipping Low-Mass X-Ray Binaries XB 1916−053 and EXO 0748−676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)
Spectroscopy of the Companion and Bow-Shock Nebula of PSR 1957+20. *Thomas L. Aldcroft, Roger W. Romani, & James M. Cordes.* 400, 638, 218-C13 (1992)
The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)
AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

STARS: BINARIES: GENERAL

A Magnitude-limited Survey of Cepheid Companions in the Ultraviolet. *Nancy Remage Evans.* 384, 220, 3-F4 (1992)
The Dynamical Evolution of Tidal Capture Binaries. *Christopher S. Kochanek.* 385, 604, 20-E13 (1992)
Excitation of Pressure Modes in Common Envelopes. *Noam Soker.* 386, 190, 26-E1 (1992)
The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)
Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)
Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339−4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)
The Evolution of a Primordial Binary Population in a Globular Cluster. *Piet Hut, Steve McMillan, & Roger W. Romani.* 389, 527, 68-A8 (1992)
Jet Formation in the Transition from the Asymptotic Giant Branch to Planetary Nebulae. *Noam Soker.* 389, 628, 69-C1 (1992)
Stellar Wind Collision and X-Ray Generation in Massive Binaries. *V. V. Usov.* 389, 635, 69-C10 (1992)
On Martell and Kaitchuck's Model for the Intermediate Polar FO Aquarii. *Koji Mukai & Coel Hellier.* 391, 295, 89-E10 (1992)
Multiplicity-corrected Mass Function of Main-Sequence Stars in the Solar Neighborhood. *Sarbani Basu & N. C. Rana.* 393, 373, 118-F10 (1992)

Deep VLA Images of Globular Clusters: NGC 6624. *Helen M. Johnston & Shrinivas R. Kulkarni.* 393, L17, 120-C8 (1992)
Is Momentum Conserved? A Test in the Binary System PSR 1913+16. *Clifford M. Will.* 393, L59, 127-C7 (1992)
The Binary System L151−81A/B: A Potential Test of Accretion Theory. *M. A. Wood & T. D. Oswalt.* 394, L53, 139-D1 (1992)
Multiplicity among M Dwarfs. *Debra A. Fischer & Geoffrey W. Marcy.* 396, 178, 157-C13 (1992)
Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)
Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)
Dusty Disks in the Multiple Systems UZ Tauri and GG Tauri. *M. Simon & S. Guilloteau.* 397, L47, 173-F9 (1992)
CCD Photometry in the Globular Cluster NGC 288. I. Blue Stragglers and Main-Sequence Binary Stars. *Michael Bolte.* 82, 145, 51-B7 (1992)
Are Symbiotic Stars the Precursors of Type Ia Supernovae? *Ulisse Munari & Alvio Renzini.* 397, L87, 181-B1 (1992)
The Perihelion Problem in Kaluza-Klein Gravity. *Paul H. Lim & Paul S. Wesson.* 397, L91, 181-B8 (1992)
An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)
Near-resonant Excitation and Propagation of Eccentric Density Waves by External Forcing. *Eve C. Ostriker, Frank H. Shu, & Fred C. Adams.* 399, 192, 197-E13 (1992)
Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)
Possible First Detection of Ultraviolet Pulses from an Intermediate Polar: V603 Aquila. *A. Schwarzenberg-Czerny, A. Udalski, & R. Monier.* 401, L19, 227-C7 (1992)
Fragmentation of Elongated Cylindrical Clouds. V. Dependence of Mass Ratios on Initial Conditions. *Ian Bonnell & Pierre Bastien.* 401, 654, 230-F1 (1992)

STARS: BINARIES: SPECTROSCOPIC

Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)
Simultaneous X-Ray and Radio Observations of GX 5−1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)
Tomographic Separation of Composite Spectra. I. The Components of Plaskett's Star. *William G. Bagnuolo, Jr., Douglas R. Gies, & Michael S. Wiggs.* 385, 708, 21-G12 (1992)
TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)
Spectroscopic Observations of the Cataclysmic Variable PG 0917+342: An Ultra–Short-Period Nova-like System. *Danuta Dobrzycka & Steve B. Howell.* 388, 614, 57-G6 (1992)
New Calibrators for the Cepheid Period-Luminosity Relation. *Nancy Remage Evans.* 389, 657, 69-E8 (1992)
Kinematics and Age of RS Canum Venaticorum and BY Draconis Stars. *Zeki Eker.* 79, 481, 20-E9 (1992)
Possible Observational Consequences of Primordial Binaries in Globular Clusters. *Ronald E. Taam & D. N. C. Lin.* 390, 440, 80-G6 (1992)
PSR 0655+64: An Astrophysical Laboratory for Testing Relativistic Gravity Theories. *Itzhak Goldman.* 390, 494, 81-D11 (1992)
Spectroscopic Binaries in the α Persei Cluster. *Nidia Morrell & Helmut A. Abt.* 393, 666, 124-B1 (1992)
The Orbital Parameters and the *IUE* Spectrum of the Single-lined Spectroscopic Binary HD 698. *Jorge Sahade, Rodolfo Barbá, & Yoji Kondo.* 81, 303, 39-B1 (1992)
On the Study of the Mass Ratio of Spectroscopic Binaries. *Tsevi Mazeh & Dorit Goldberg.* 394, 592, 136-F10 (1992)
Multiplicity among M Dwarfs. *Debra A. Fischer & Geoffrey W. Marcy.* 396, 178, 157-C13 (1992)
A Spectroscopic Search for Colliding Stellar Winds in O-Type Close Binary Systems. II. Plaskett's Star (HD 47129). *Michael S. Wiggs & Douglas R. Gies.* 396, 238, 158-A12 (1992)
γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)
Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris. *Carmelle Robert, Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, Wilhelm Seggewiss, Virpi S. Niemela, Miguel A. Cerruti, Paul Barrett, Jeremy Bailey, Jorge Garcia, & Santiago Tapia.* 397, 277, 171-D1 (1992)
Evidence for a Black Hole in the X-Ray Binary Nova Muscae 1991. *Ronald A. Remillard, Jeffrey E. McClintock, & Charles D. Bailyn.* 399, L145, 208-C7 (1992)
On the Mass-Ratio Distribution of Spectroscopic Binaries with Solar-Type Primaries. *Tsevi Mazeh, Dorit Goldberg, Antoine Duquennoy, & Michel Mayor.* 401, 265, 224-C9 (1992)
Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

STARS: BINARIES: SYMBIOTIC

The Secondary Outburst Maximum of T Coronae Borealis: Implications for the Physics of Accretion Disks. *John K. Cannizzo & Scott J. Kenyon.* 386, L17, 29-C7 (1992)
Observations of Symbiotic Stars at Millimeter and Submillimeter Wavelengths. *E. R. Seaquist & A. R. Taylor.* 387, 624, 46-D5 (1992)
Improved Calculations for the C III $\lambda\lambda$1907,1909 and Si III $\lambda\lambda$1883,1892 Electron Density Sensitive Emission-Line Ratios, and a Comparison with *IUE* Observations. *F. P. Keenan, W. A. Feibelman, & K. A. Berrington.* 389, 443, 65-D5 (1992)
The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*. *Denis Burgarella & Francesco Paresce.* 389, L29, 66-D10 (1992)
Fe II Fluorescence and Anomalous C IV Doublet Intensities in Symbiotic Novae. *A. G. Michalitsianos, M. Kafatos, & S. R. Meier.* 389, 649, 69-D12 (1992)
Ultraviolet Observations of the Symbiotic Star AS 296. *A. Gutiérrez-Moreno, H. Moreno, & W. A. Feibelman.* 395, 295, 143-G1 (1992)
Are Symbiotic Stars the Precursors of Type Ia Supernovae? *Ulisse Munari & Alvio Renzini.* 397, L87, 181-B1 (1992)

STARS: BINARIES: VISUAL

Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison. *Xiaopei Pan, Michael Shao, M. Mark Colavita, J. Thomas Armstrong, David Mozurkewich, Maddali Vivekanand, Craig S. Denison, Richard S. Simon, & Kenneth J. Johnston.* 384, 624, 9-G9 (1992)
Companions to White Dwarfs: Very Low Mass Stars and the Brown Dwarf Candidate GD 165B. *B. Zuckerman & E. E. Becklin.* 386, 260, 27-D7 (1992)
Secondaries of Eclipsing Binaries. VII. The Spectroscopic Triple and Visual Double V505 Sagittarii. *Jocelyn Tomkin.* 387, 631, 46-E1 (1992)
The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)
First Orbits for the Visual Double Stars WDS 00516N2238, WDS 17366N0722, WDS 17563N0259, and WDS 23020N4800. *J. A. Docobo & J. M. Costa.* 82, 323, 53-G7 (1992)
Observations of Double Stars and New Pairs. XV. *W. D. Heintz.* 83, 351, 62-F1 (1992)

STARS: CARBON

A VLA 3.6 Centimeter Survey of N-Type Carbon Stars. *Donald G. Luttermoser & Alexander Brown.* 384, 634, 10-A7 (1992)
Radial Velocities of Carbon Stars: CO versus Optical Measurements. *Cecilia Barnbaum.* 385, 694, 21-F10 (1992)
High Spatial Resolution Maps of Circumstellar SiC_2 in IRC +10216. *P. D. Gensheimer, Lauren Likkel, & L. E. Snyder.* 388, L31, 52-C11 (1992)
Candidates for Extreme Carbon Stars. *Kevin Volk, Sun Kwok, & Philip P. Langill.* 391, 285, 89-D12 (1992)

8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)
Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)
Carbon Star Luminosity Indicators. *Paul J. Green, Bruce Margon, Scott F. Anderson, & D. Jack MacConnell.* 400, 659, 218-E12 (1992)
Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

STARS: CHEMICALLY PECULIAR

Radio Emission from Chemically Peculiar Stars. *Jeffrey L. Linsky, Stephen A. Drake, & T. S. Bastian.* 393, 341, 118-D1 (1992)
Self-consistent Models of Wolf-Rayet Stars as Helium Stars with Optically Thick Winds. *Mariko Kato & Icko Iben, Jr.* 394, 305, 131-F13 (1992)
Nonequilibrium Iron Oxide Formation in Some Low-Mass Post–Asymptotic Giant Branch Stars. *Frans J. M. Rietmeijer.* 400, L39, 214-E6 (1992)

STARS: CHROMOSPHERES

The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)
Partially Coherent Scattering in Stellar Chromospheres. I. Effects on Resonance Line Thermalization. *Kenneth G. Gayley.* 78, 549, 10-D7 (1992)
Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)
Kinematics and Age of RS Canum Venaticorum and BY Draconis Stars. *Zeki Eker.* 79, 481, 20-E9 (1992)
Partially Coherent Scattering in Stellar Chromospheres. II. The First-Order Escape Probability Method. *K. G. Gayley.* 390, 573, 82-D8 (1992)
Partially Coherent Scattering in Stellar Chromospheres. III. A Second-Order Escape Probability Method. *K. G. Gayley.* 390, 583, 82-E5 (1992)
Line Profile Asymmetries in Chromospherically Active Stars. *Robert C. Dempsey, Bernard W. Bopp, Klaus G. Strassmeier, Arno F. Granados, Gregory W. Henry, & Douglas S. Hall.* 392, 187, 103-C5 (1992)
Evidence of Differential Surface Rotation in the Solar-Type Star HD 114710. *Robert A. Donahue & Sallie L. Baliunas.* 393, L63, 127-D1 (1992)
γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)
Emission-Line Studies of Young Stars. I. The T Tauri Stars. *Fred Hamann & S. E. Persson.* 82, 247, 52-F9 (1992)
Emission-Line Studies of Young Stars. II. The Herbig Ae/Be Stars. *Fred Hamann & S. E. Persson.* 82, 285, 53-C11 (1992)

STARS: CIRCUMSTELLAR MATTER

Dynamics of the Envelopes of Be Stars in the Equatorial Plane. *Haiqi Chen, J. M. Marlborough, & L. B. F. M. Waters.* 384, 605, 9-F1 (1992)
The Peculiar, Fast Nova Herculis 1991. *Charles E. Woodward, R. D. Gehrz, Terry J. Jones, & G. F. Lawrence.* 384, L41, 11-C1 (1992)
IRAS 16293–2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)
Polarization Variability among Wolf-Rayet Stars. VII. The Single Stars WR 14, WR 25, and WR 69. *Laurent Drissen, Carmelle Robert, & Anthony F. J. Moffat.* 386, 288, 27-F11 (1992)
Comparing Restored *HST* and VLA Imagery of R Aquarii. *J. M. Hollis, J. E. Dorband, & F. Yusef-Zadeh.* 386, 293, 27-G3 (1992)
Consequences of the Star-Stream Interaction in Algol. *Mercedes T. Richards.* 387, 329, 41-A12 (1992)
10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)
Line Fluorescence from the Ring around SN 1987A. *Eli Dwek & James E. Felten.* 387, 551, 45-E1 (1992)
Time Variations in Millimeter-Wave Radio Recombination Lines from the Be Star MWC 349A. *M. A. Gordon.* 387, 701, 47-D5 (1992)
Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)
Velocity Streaming of *IRAS* Main-Sequence Disk Stars and the Episodic Enhancement of Particulate Disks by Interstellar Clouds. *Daniel P. Whitmire, John J. Matese, & Patrick G. Whitman.* 388, 190, 51-D1 (1992)
High Spatial Resolution Maps of Circumstellar SiC_2 in IRC +10216. *P. D. Gensheimer, Lauren Likkel, & L. E. Snyder.* 388, L31, 52-C11 (1992)
The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*. *Denis Burgarella & Francesco Paresce.* 389, L29, 66-D10 (1992)
Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)
1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras. *Alan J. Collison & John D. Fix.* 390, 191, 76-C13 (1992)
Discovery of Bipolar OH Maser Emission from the High-Latitude Supergiant Star HD 101584. *P. te Lintel Hekkert, J. M. Chapman, & A. A. Zijlstra.* 390, L23, 78-D9 (1992)
Location of the Dust Formation Region for Mira Variables. *P. F. Bowers.* 390, L27, 78-E1 (1992)
Candidates for Extreme Carbon Stars. *Kevin Volk, Sun Kwok, & Philip P. Langill.* 391, 285, 89-D12 (1992)
Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)
Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)
Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *Jesús Martín-Pintado & Rafael Bachiller.* 391, L93, 99-G12 (1992)
Chemistry in Circumstellar Disks: CS toward HL Tauri. *Geoffrey A. Blake, Ewine F. van Dishoeck, & Anneila I. Sargent.* 391, L99, 100-A5 (1992)
8–14 Micron Spectroscopy of Carbon Stars Associated with Silicate Dust. *Paul D. LeVan, G. C. Sloan, Irene R. Little-Marenin, & G. L. Grasdalen.* 392, 702, 111-A1 (1992)
The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)
Comment on Red Giant Envelopes as Broad Emission-Line Clouds in Active Galactic Nuclei. *John Kwan, F. Z. Cheng, & Zongwei Li.* 393, 87, 115-B9 (1992)
Interpreting Infrared Color-Color Diagrams: Circumstellar Disks around Low- and Intermediate-Mass Young Stellar Objects. *Charles J. Lada & Fred C. Adams.* 393, 278, 117-E12 (1992)
Water Masers in W49N—The Youngest Stellar Jet? *Mordecai-Mark Mac Low & Moshe Elitzur.* 393, L33, 120-E6 (1992)
Measurement of CO Overtone Line Profiles in SVS 13. *John S. Carr & Alan T. Tokunaga.* 393, L67, 127-D7 (1992)
Tidal Disruption of a Star by a Massive Disk (The Axisymmetric Roche Problem). *John W. Woodward, Srivaths Sankaran, & Joel E. Tohline.* 394, 248, 131-B1 (1992)
The Orbital Parameters and the *IUE* Spectrum of the Single-lined Spectroscopic Binary HD 698. *Jorge Sahade, Rodolfo Barbá, & Yoji Kondo.* 81, 303, 39-B1 (1992)
Physical Properties of Be Star Envelopes from Balmer and Fe II Emission Lines. *Arne Slettebak, George W. Collins II, & Ryland Truax.* 81, 335, 39-D13 (1992)
Model Scattering Envelopes of Young Stellar Objects. I. Method and Application to Circumstellar Disks. *Barbara A. Whitney & Lee Hartmann.* 395, 529, 149-D1 (1992)
The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)
Evidence for Unseen Companions around T Tauri Stars. *Kenneth A. Marsh & Michael J. Mahoney.* 395, L115, 154-D1 (1992)

Protonated Acetylene: An Important Circumstellar and Interstellar Ion. *A. E. Glassgold, A. Omont, & M. Guélin.* 396, 115, 156-E5 (1992)

OH/IR Star Color Mimics. *B. M. Lewis.* 396, 251, 158-B13 (1992)

A Sensitive Search for Rotational Lines of Vibrationally Excited HC_5N in IRC +10°216. *M. B. Bell, P. A. Feldman, & L. W. Avery.* 396, 643, 165-D1 (1992)

Interstellar Scattering toward the Galactic Center as Probed by OH/IR Stars. *Huib Jan van Langevelde, Dale A. Frail, James M. Cordes, & Philip J. Diamond.* 396, 686, 165-G9 (1992)

Newly Identified Main-Sequence A Stars with Circumstellar Dust. *K.-P. Cheng, F. C. Bruhweiler, Y. Kondo, & C. A. Grady.* 396, L83, 167-C1 (1992)

Dynamics of the Envelopes of Be Stars in the Equatorial Plane. II. The Influence of a Weak Magnetic Field on the Azimuthal Motion of a Slowly Expanding Wind. *Haiqi Chen & J. M. Marlborough.* 397, 242, 171-A3 (1992)

Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)

On the Interaction between Dust and Gas in Late-Type Stellar Atmospheres and Winds. *K. B. MacGregor & R. E. Stencel.* 397, 644, 179-A13 (1992)

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

BIMA Observations of HCO^+ Emission from the Planetary Nebula NGC 7027. *Lauren Likkel.* 397, L115, 181-E6 (1992)

Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

Polarization and the Envelopes of B[e] Supergiants in the Magellanic Clouds. *A. M. Magalhães.* 398, 286, 185-C11 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

Multiple Jets from the Young Star IRAS 21334+5039. *Howard A. Smith & Jacqueline Fischer.* 398, L99, 194-D1 (1992)

The Synchrotron Bays of the Crab Nebula: A Magnetic Structure Associated with a Presupernova Circumstellar Disk. *Robert A. Fesen, Crystal L. Martin, & J. Michael Shull.* 399, 599, 205-C7 (1992)

Dynamics of Kepler's Supernova Remnant. *Kazimierz J. Borkowski, John M. Blondin, & Craig L. Sarazin.* 400, 222, 211-F5 (1992)

The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)

The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

Mass-Loss Rates for *IRAS*-bright Red Giants: A Revised Model of Circumstellar CO Emission. *Joel H. Kastner.* 401, 337, 225-B11 (1992)

High-Excitation ^{29}SiO and ^{30}SiO Maser Emission. *J. Cernicharo & V. Bujarrabal.* 401, L109, 233-E5 (1992)

A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths. *L. W. Avery, T. Amano, M. B. Bell, P. A. Feldman, J. W. C. Johns, J. M. MacLeod, H. E. Matthews, D. C. Morton, J. K. G. Watson, B. E. Turner, S. S. Hayashi, G. D. Watt, & A. S. Webster.* 83, 363, 62-G3 (1992)

STARS: CORONAE

A Study of the Stellar Population in the Chamaeleon Dark Clouds. *Lisa S. Gauvin & Karen M. Strom.* 385, 217, 14-F1 (1992)

X-Ray–heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations. *Suzanne L. Hawley & George H. Fisher.* 78, 565, 10-F1 (1992)

Inhibition of Electron Thermal Conduction by Electromagnetic Instabilities. *Amir Levinson & David Eichler.* 387, 212, 39-E5 (1992)

X-Ray Activity as Statistical Age Indicator: The Disk G–K Giants. *G. Micela, A. Maggio, & G. S. Vaiana.* 388, 171, 51-B5 (1992)

First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

Time Variability Studies with Photon-counting Imaging Detectors. I. A Maximum Likelihood Technique. *S. Sciortino & G. Micela.* 388, 595, 57-E11 (1992)

ROSAT X-Ray All-Sky Survey Observations of Hybrid Stars. *Bernhard Haisch, J. H. M. M. Schmitt, & C. Rosso.* 388, L61, 59-C7 (1992)

On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

Transient Periodicities in X-Ray–active Red Dwarfs: First Results from Mount Cuba and Interpretation with an Oscillating Loop Model. *D. J. Mullan, R. B. Herr, & S. Bhattacharyya.* 391, 265, 89-C1 (1992)

Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

ROSAT X-Ray Observations of Hybrid Stars. *D. Reimers & J. H. M. M. Schmitt.* 392, L55, 113-B11 (1992)

Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)

Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)

Why All Stars Should Possess Circumstellar Temperature Inversions. *Jack D. Scudder.* 398, 319, 185-F11 (1992)

An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)

First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

Ginga Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)

STARS: DISTANCES

The Absolute Magnitudes of LMC RR Lyrae Variables and the Ages of Galactic Globular Clusters. *Alistair R. Walker.* 390, L81, 85-A7 (1992)

STARS: EARLY-TYPE

A Comparison of the Properties of an Unbiased Sample of OB Associations in the Local Group Galaxies M33 and NGC 6822. *Christine D. Wilson.* 384, L29, 11-B1 (1992)

Non–LTE, Line-blanketed Model Atmospheres for Late O- and Early B-Type Stars. *James A. Grigsby, Nancy D. Morrison, & Lawrence S. Anderson.* 78, 205, 4-D9 (1992)

Constraints on the Surface Magnetic Fields of Hot Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 386, 695, 33-G13 (1992)

Carbon, Nitrogen, and Oxygen Abundances in Early B-Type Stars. *Douglas R. Gies & David L. Lambert.* 387, 673, 47-B1 (1992)

π^0-Decay Gamma-Ray Emission from Winds of Massive Stars. *Richard L. White & Wan Chen.* 387, L81, 48-D6 (1992)

Stellar Wind Collision and X-Ray Generation in Massive Binaries. *V. V. Usov.* 389, 635, 69-C10 (1992)

Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis. *R. K. Prinja, L. A. Balona, C. T. Bolton, R. A. Crowe, M. S. Fieldus, A. W. Fullerton, D. R. Gies, I. D. Howarth, D. McDavid, & A. H. N. Reid.* 390, 266, 77-C6 (1992)

Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

Upper Limit to the Mass of Pulsationally Stable Stars with Uniform Chemical Composition. *Richard B. Stothers.* 392, 706, 111-A7 (1992)

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

X-Ray Emission from Single Magnetic Early-Type Stars. *V. V. Usov & D. B. Melrose.* 395, 575, 150-B1 (1992)

An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

Newly Identified Main-Sequence A Stars with Circumstellar Dust. *K.-P. Cheng, F. C. Bruhweiler, Y. Kondo, & C. A. Grady.* 396, L83, 167-C1 (1992)

A Homogeneous Catalog of New *UBV* and Hβ Photometry of B- and A-Type Stars in and around the Scorpius-Centaurus OB Association. *Robert W. Slawson, Robert J. Hill, & John D. Landstreet.* 82, 117, 50-E9 (1992)

The Case Low-Dispersion Northern Sky Survey. XIII. A Region in Central Bootes and Corona Borealis. *C. B. Stephenson, Peter Pesch, & D. Jack MacConnell.* 82, 471, 55-D3 (1992)

Two-Stage Starbursts in the Large Magellanic Cloud: N11 as a Once and Future 30 Doradus. *Nolan R. Walborn & Joel Wm. Parker.* 399, L27, 201-C5 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

STARS: EMISSION-LINE, BE

Dynamics of the Envelopes of Be Stars in the Equatorial Plane. *Haiqi Chen, J. M. Marlborough, & L. B. F. M. Waters.* 384, 605, 9-F1 (1992)

A Catalog of Co-added *IRAS* Fluxes of Orion Population Stars. *Wm. Bruce Weaver & Gordon Jones.* 78, 239, 4-G7 (1992)

Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

Balmer Line Profiles for Infalling T Tauri Envelopes. *Nuria Calvet & Lee Hartmann.* 386, 239, 27-B8 (1992)

Properties of the Massive X-Ray Binary 4U 1700−37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)

PSR 1259−63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

Time Variations in Millimeter-Wave Radio Recombination Lines from the Be Star MWC 349A. *M. A. Gordon.* 387, 701, 47-D5 (1992)

The 3 Micron Spectrum of the Classical Be Star β Monocerotis A. *K. Sellgren & R. G. Smith.* 388, 178, 51-B13 (1992)

Fe II Fluorescence and Anomalous C IV Doublet Intensities in Symbiotic Novae. *A. G. Michalitsianos, M. Kafatos, & S. R. Meier.* 389, 649, 69-D12 (1992)

The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

N III Line Emission in Planetary Nebulae: Continuum Fluorescence. *G. J. Ferland.* 389, L63, 73-D1 (1992)

Carbon and Nitrogen Abundances Determined from Transition Layer Lines. *Erika Böhm-Vitense & José Mena-Werth.* 390, 253, 77-B4 (1992)

Propagating Absorption Enhancements in the Wind of the Extreme Of Supergiant HD 151804. *A. W. Fullerton, D. R. Gies, & C. T. Bolton.* 390, 650, 83-D1 (1992)

Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

Physical Properties of Be Star Envelopes from Balmer and Fe II Emission Lines. *Arne Slettebak, George W. Collins II, & Ryland Truax.* 81, 335, 39-D13 (1992)

Emission-Line Studies of Young Stars. III. Correlations with the Infrared Excess. *Fred Hamann & S. E. Persson.* 394, 628, 137-C5 (1992)

Dynamics of the Envelopes of Be Stars in the Equatorial Plane. II. The Influence of a Weak Magnetic Field on the Azimuthal Motion of a Slowly Expanding Wind. *Haiqi Chen & J. M. Marlborough.* 397, 242, 171-A3 (1992)

Emission-Line Studies of Young Stars. I. The T Tauri Stars. *Fred Hamann & S. E. Persson.* 82, 247, 52-F9 (1992)

Emission-Line Studies of Young Stars. II. The Herbig Ae/Be Stars. *Fred Hamann & S. E. Persson.* 82, 285, 53-C11 (1992)

Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)

The Near-Infrared [Fe II] Lines of MWC 922. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 398, 278, 185-C1 (1992)

Polarization and the Envelopes of B[e] Supergiants in the Magellanic Clouds. *A. M. Magalhães.* 398, 286, 185-C11 (1992)

EXOSAT Observations of the Be/X-Ray Binary 4U 2206+54. *Priyamvada Saraswat & Krishna M. V. Apparao.* 401, 678, 231-A1 (1992)

Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry. *R. E. Schulte-Ladbeck, D. S. Shepherd, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, M. Taylor, & B. A. Whitney.* 401, L105, 233-D12 (1992)

STARS: EVOLUTION

Local Distribution of Old Neutron Stars. *Zsolt Frei, Xiaolan Huang, & Bohdan Paczyński.* 384, 105, 2-C10 (1992)

A Magnitude-limited Survey of Cepheid Companions in the Ultraviolet. *Nancy Remage Evans.* 384, 220, 3-F4 (1992)

The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

Classical Nova Models with Accretion Heating at Accretion Rates of 10^{-9} and 10^{-10} $M_\odot$ per Year. *Dina Prialnik & Attay Kovetz.* 385, 665, 21-D1 (1992)

The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)

The Evolution through H and He Burning of Galactic Cluster Stars. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 78, 517, 9-G11 (1992)

On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)

Unusual 3 Micron Emission Features in Three Proto–Planetary Nebulae. *T. R. Geballe, A. G. G. M. Tielens, S. Kwok, & B. J. Hrivnak.* 387, L89, 48-E1 (1992)

X-Ray Activity as Statistical Age Indicator: The Disk G–K Giants. *G. Micela, A. Maggio, & G. S. Vaiana.* 388, 171, 51-B5 (1992)

Short- and Intermediate-Period Oxygen-rich Miras. *M. Jura & S. G. Kleinmann.* 79, 105, 14-D3 (1992)

The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)

The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

The Contribution of Advanced Post-Hayashi Track Evolutionary Phases to the Ultraviolet Light of Elliptical Galaxies. *Marco Castellani, Marco Limongi, & Amedeo Tornambè.* 389, 227, 62-G1 (1992)

Type I Supernovae and Accretion-induced Collapses from Cataclysmic Variables? *Mario Livio & James W. Truran.* 389, 695, 70-A10 (1992)

Supernova Rates and the Reddening of Wolf-Rayet Stars. *Sidney van den Bergh.* 390, 133, 75-F1 (1992)

Stellar Evolution in Blue Populous Clusters of the Small Magellanic Cloud and the Problems of Envelope Semiconvection and Convective Core Overshooting. *Richard B. Stothers & Chao-wen Chin.* 390, 136, 75-F6 (1992)

Possible Observational Consequences of Primordial Binaries in Globular Clusters. *Ronald E. Taam & D. N. C. Lin.* 390, 440, 80-G6 (1992)

Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)
Maximum Rates of Period Change for DA White Dwarf Models with Carbon and Oxygen Cores. *P. A. Bradley, D. E. Winget, & M. A. Wood.* 391, L33, 92-C1 (1992)
Oxygen-enhanced Models for Globular Cluster Stars. I. Evolutionary Tracks. *Don A. VandenBerg.* 391, 685, 96-E5 (1992)
The Age and Chemical Evolution of High-Redshift QSOs. *Fred Hamann & Gary Ferland.* 391, L53, 99-C7 (1992)
Lithium Abundances in Classical and Weak T Tauri Stars. *Antonio Magazzù, Rafael Rebolo, & Yakov V. Pavlenko.* 392, 159, 103-A1 (1992)
Are There Two Kinds of Blue Stragglers in Globular Clusters? *Charles D. Bailyn.* 392, 519, 108-F9 (1992)
Setting the Clock of Stellar Models. *G. Bertelli, A. Bressan, & C. Chiosi.* 392, 522, 108-F13 (1992)
The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)
The Evolution of Intermediate-Mass Protostars. II. Influence of the Accretion Flow. *Francesco Palla & Steven W. Stahler.* 392, 667, 110-E5 (1992)
The Creation of Superrich Lithium Giants. *I.-Juliana Sackmann & Arnold I. Boothroyd.* 392, L71, 113-D3 (1992)
The Structure of Horizontal-Branch Models. I. The Zero-Age Horizontal Branch. *Ben Dorman.* 80, 701, 33-B5 (1992)
Breakdown of the Core Mass–Luminosity Relation at High Luminosities on the Asymptotic Giant Branch. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 393, L21, 120-D1 (1992)
Evolutionary Models and the *p*-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)
Oxygen-enhanced Models for Globular Cluster Stars. II. Isochrones and Luminosity Functions. *Peter A. Bergbusch & Don A. VandenBerg.* 81, 163, 37-C11 (1992)
Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J. Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes.* 81, 251, 38-D5 (1992)
Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)
Early Expansion and Luminosity Evolution of Supernovae. *Roger A. Chevalier.* 394, 599, 136-G5 (1992)
Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)
The Binary System L151−81A/B: A Potential Test of Accretion Theory. *M. A. Wood & T. D. Oswalt.* 394, L53, 139-D1 (1992)
Mass Loss and a Possible Population II Lithium Dip. *David S. P. Dearborn, David N. Schramm, & L. M. Hobbs.* 394, L61, 139-E1 (1992)
Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)
Lithium Dilution through Main-Sequence Mass Loss. *Fritz J. Swenson & John Faulkner.* 395, 654, 151-D3 (1992)
Helium Diffusion in the Sun. *J. N. Bahcall & M. H. Pinsonneault.* 395, L119, 154-D7 (1992)
Hubble Space Telescope FOS Observations of KPD 0005+5106: A Subluminous WN-WC Descendant with Ongoing Mass Outflow? *Edward M. Sion & Ronald A. Downes.* 396, L79, 167-B7 (1992)
Helium Gravitational Settling in the Envelopes of Evolving Main-Sequence A and F Stars. *Jacques Richer, Georges Michaud, & Charles R. Proffitt.* 82, 329, 54-A1 (1992)
A Formulation of Convection for Stellar Structure and Evolution Calculations without the Mixing-Length Theory Approximations. I. Application to the Sun. *Thomas Joseph Lydon, Peter A. Fox, & Sabatino Sofia.* 397, 701, 179-G3 (1992)
The Age of the Small Magellanic Cloud Cluster Lindsay 11. *J. R. Mould, J. B. Jensen, & G. S. Da Costa.* 82, 489, 55-E11 (1992)
Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)
Populations of Low-Mass Black Hole Binaries. *Roger W. Romani.* 399, 621, 205-F1 (1992)
On the Pulsational Stability of the Pre–White Dwarf Star PG 1707+427. *Albert D. Grauer, Richard F. Green, & James Liebert.* 399, 686, 206-D7 (1992)

STARS: FLARE

The Origin of the Far-Ultraviolet Continuum in Solar and Stellar Flares. *K. J. H. Phillips, G. E. Bromage, & J. G. Doyle.* 385, 731, 22-B11 (1992)
X-Ray–heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations. *Suzanne L. Hawley & George H. Fisher.* 78, 565, 10-F1 (1992)
Transient Periodicities in X-Ray–active Red Dwarfs: First Results from Mount Cuba and Interpretation with an Oscillating Loop Model. *D. J. Mullan, R. B. Herr, & S. Bhattacharyya.* 391, 265, 89-C1 (1992)
Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

STARS: FORMATION

^{13}CO in IC 342: Evidence for a Spiral Density Wave in the Nucleus. *Jean L. Turner & Robert L. Hurt.* 384, 72, 1-G13 (1992)
The Zeeman Effect in Astrophysical Water Masers and the Observation of Strong Magnetic Fields in Regions of Star Formation. *Gerald E. Nedoluha & William D. Watson.* 384, 185, 3-C5 (1992)
The Origin of the Optical Emission Lines Associated with Extragalactic Radio Sources. *S. M. Viegas & E. M. de Gouveia Dal Pino.* 384, 467, 8-A1 (1992)
On the Origin of Submillimeter Emission from Young Stars in Taurus-Auriga. *Mary Barsony & Scott J. Kenyon.* 384, L53, 11-D1 (1992)
A Study of the Stellar Population in the Chamaeleon Dark Clouds. *Lisa S. Gauvin & Karen M. Strom.* 385, 217, 14-F1 (1992)
The Molecular Core in G34.3+0.2: Millimeter Interferometric Observations of HCO^+, $H^{13}CN$, $HC^{15}N$, and SO. *Patricia Carral & William J. Welch.* 385, 244, 15-A4 (1992)
Discovery of Outflows from Young Stellar Objects in Bok Globules. *João Lin Yun & Dan P. Clemens.* 385, L21, 17-C6 (1992)
Origin of Far-Infrared Emission in Seyfert and Starburst Galaxies. *Hideaki Mouri & Yoshiaki Taniguchi.* 386, 68, 25-A1 (1992)
Numerical Models for the Collapse and Fragmentation of Centrally Condensed Molecular Cloud Cores. *Elizabeth A. Myhill & William M. Kaula.* 386, 578, 32-E4 (1992)
A Survey of CS $J = 7 \rightarrow 6$ in Regions of Massive Star Formation. *René Plume, D. T. Jaffe, & Neal J. Evans II.* 78, 505, 9-F5 (1992)
Evolution of Spiral Galaxies. I. Halo-Disk Connection for the Evolution of the Solar Neighborhood. *Federico Ferrini, Francesca Matteucci, Chiara Pardi, & Umberto Penco.* 387, 138, 38-F5 (1992)
A Triggering Mechanism for Enhanced Star Formation in Colliding Galaxies. *Chanda J. Jog & P. M. Solomon.* 387, 152, 38-G6 (1992)
Properties of Swept-up Molecular Outflows. *Colin R. Masson & Lawrence M. Chernin.* 387, L47, 43-F1 (1992)
The Molecular Hydrogen Emission around L1551 IRS 5: Shock-Heated Molecular Gas at the Base of the Molecular Outflow. *Takuya Yamashita & Motohide Tamura.* 387, L93, 48-E5 (1992)
The Star Formation History of the Large Magellanic Cloud. *Gianpaolo Bertelli, Mario Mateo, Cesare Chiosi, & Alessandro Bressan.* 388, 400, 55-C11 (1992)
The Stability of Accretion Tori. IV. Fission and Fragmentation of Slender, Self-gravitating Annuli. *Dimitris M. Christodoulou & Ramesh Narayan.* 388, 451, 56-A1 (1992)
Subarcsecond Mid-Infrared Imaging of the Nuclei of the Infrared Bright Galaxies NGC 1614 and NGC 7469. *Eric Keto, Roger Ball, John Arens, Garrett Jernigan, & Margaret Meixner.* 389, 223, 62-F9 (1992)
The Juggler: A Three-lobed Near-Infrared Reflection Nebula toward CRL 2136 = OH 17.6+0.2. *Joel H. Kastner, David A. Weintraub, & C. Aspin.* 389, 357, 64-D1 (1992)
Thermal Dust Imaging: The Onset of Asymmetry in the Ultracompact H II Region G5.89−0.39. *Roger Ball, John F. Arens, J. Garrett Jernigan, Eric Keto, & Margaret M. Meixner.* 389, 616, 69-B1 (1992)

Star Formation and the Distribution of H I and Infrared Emission in M51. *Richard J. Rand, Shrinivas R. Kulkarni, & W. Rice.* 390, 66, 74-G9 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)

Bipolar Outflow in B335: The Small-Scale Structure. *Naomi Hirano, Osamu Kameya, Takashi Kasuga, & Tomofumi Umemoto.* 390, L85, 85-B1 (1992)

Ambipolar Diffusion and Star Formation: Formation and Contraction of Axisymmetric Cloud Cores. I. Formulation of the Problem and Method of Solution. *Robert A. Fiedler & Telemachos Ch. Mouschovias.* 391, 199, 88-D12 (1992)

Far-Ultraviolet MAMA Detector Imagery and Emission-Line CCD Imagery of NGC 6240. *Andrew M. Smith, Robert S. Hill, Frederick J. Vrba, & J. Gethyn Timothy.* 391, L81, 99-F5 (1992)

Initiation of Bipolar Flows by Magnetic Field Twisting in Protostellar Nebulae. *William I. Newman, Alice L. Newman, & Richard V. E. Lovelace.* 392, 622, 110-A1 (1992)

The Outflow in the L1157 Dark Cloud: Evidence for Shock Heating of the Interacting Gas. *T. Umemoto, T. Iwata, Y. Fukui, H. Mikami, S. Yamamoto, O. Kameya, & N. Hirano.* 392, L83, 113-E6 (1992)

Detection of SiO Emission in the L1157 Dark Cloud. *Hitomi Mikami, Tomofumi Umemoto, Satoshi Yamamoto, & Shuji Saito.* 392, L87, 113-E11 (1992)

The Formation of Primordial Degenerate Protostars. *Paolo Lenzuni, David F. Chernoff, & Edwin E. Salpeter.* 393, 232, 117-A11 (1992)

Global Star Formation in the L1630 Molecular Cloud. *Elizabeth A. Lada.* 393, L25, 120-D7 (1992)

Water Masers in W49N—The Youngest Stellar Jet? *Mordecai-Mark Mac Low & Moshe Elitzur.* 393, L33, 120-E6 (1992)

Color Gradients in Cooling Flows in Clusters of Galaxies. *Brian R. McNamara & Robert W. O'Connell.* 393, 579, 123-B1 (1992)

In Search of Evidence for Protostellar Collapse: A Systematic Study of Line Formation in Low-Mass Dense Cores. *Shudong Zhou.* 394, 204, 130-E4 (1992)

Planar H_2O Masers in Star-forming Regions. *Moshe Elitzur, David J. Hollenbach, & Christopher F. McKee.* 394, 221, 130-F10 (1992)

Star Formation in Protogalactic Clouds. *Douglas N. C. Lin & Stephen D. Murray.* 394, 523, 135-G8 (1992)

Implications of Ultraviolet Imaging Telescope Observations for Star Formation Histories in NGC 1275. *Eric P. Smith, Robert W. O'Connell, Ralph C. Bohlin, Kwang-Ping Cheng, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Paul Hintzen, Wayne B. Landsman, Susan G. Neff, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L49, 145-D9 (1992)

Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)

Twin Peaks of CO Emission in the Central Regions of Barred Galaxies. *Jeffrey D. P. Kenney, Christine D. Wilson, Nick Z. Scoville, Nicholas A. Devereux, & Judith S. Young.* 395, L79, 153-G5 (1992)

Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chernin & Colin R. Masson.* 396, L35, 160-F8 (1992)

Density Structure and Star Formation in Dense Cores with Thermal and Nonthermal Motions. *P. C. Myers & G. A. Fuller.* 396, 631, 165-C1 (1992)

On the Use of Far-Infrared Luminosity as a Star Formation Indicator in Galaxies. *Marc Sauvage & Trinh X. Thuan.* 396, L69, 167-A9 (1992)

On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)

[C I] Emission at $z = 2.286$ in the Protogalaxy IRAS F10214+4724. *Robert L. Brown & Paul A. Vanden Bout.* 397, L11, 173-B10 (1992)

IRAS F10214+4724: An Extended CO Emission Source at $z = 2.2867$. *Robert L. Brown & Paul A. Vanden Bout.* 397, L19, 173-C6 (1992)

Dusty Disks in the Multiple Systems UZ Tauri and GG Tauri. *M. Simon & S. Guilloteau.* 397, L47, 173-F9 (1992)

IRAS Observations and the Stellar Content of H II Regions in the Large Magellanic Cloud. *Kathleen DeGioia-Eastwood.* 397, 542, 177-F7 (1992)

Resolving the Forbidden-Line Emission Regions of Young Stellar Objects: DD Tauri. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 397, L107, 181-D7 (1992)

High-Velocity HCO^+ Emission from L1551 IRS 5: Evidence for Wind-Cloud Interactions. *Alexander Rudolph.* 397, L111, 181-D13 (1992)

^{26}Al and Time Scales of the Solar Nebula. *Kurt Liffman.* 398, L111, 194-F1 (1992)

Large Infrared and Optical Color Gradients in the Cartwheel Ring Galaxy: Evidence for the First Epoch of Star Formation in the Wake of an Expanding Ring. *P. M. Marcum, P. N. Appleton, & J. L. Higdon.* 399, 57, 195-G3 (1992)

Near-resonant Excitation and Propagation of Eccentric Density Waves by External Forcing. *Eve C. Ostriker, Frank H. Shu, & Fred C. Adams.* 399, 192, 197-E13 (1992)

Infrared Line Diagnostics of Active Galactic Nuclei. *Luigi Spinoglio & Matthew A. Malkan.* 399, 504, 204-B11 (1992)

Corrugations and Star Formation Activity: The Carina-Sagittarius Arm. *Emilio J. Alfaro, Jesús Cabrera-Caño, & Antonio J. Delgado.* 399, 576, 205-A9 (1992)

Galaxy Formation and Physical Bias. *Renyue Cen & Jeremiah P. Ostriker.* 399, L113, 207-F7 (1992)

Cool Mass-losing Boundary Layers of T Tauri Accretion Disks. *Claude Bertout & Oded Regev.* 399, L163, 208-E1 (1992)

Models of Star Formation in Interacting and Merging Disk Galaxies. *J. Christopher Mihos, Douglas O. Richstone, & Gregory D. Bothun.* 400, 153, 210-G4 (1992)

Globular Cluster Formation: The Fossil Record. *Stephen D. Murray & Douglas N. C. Lin.* 400, 265, 212-C3 (1992)

Interacting H_2O Masers in Star-forming Regions. *Nikolaos D. Kylafis & Konstantinos G. Pavlakis.* 400, 344, 213-B12 (1992)

Starbursts Triggered by Central Overpressure in Interacting Galaxies. *Chanda J. Jog & Mousumi Das.* 400, 476, 216-C1 (1992)

Fragmentation of Elongated Cylindrical Clouds. IV. Clouds with Solid-Body Rotation about an Arbitrary Axis. *Ian Bonnell, Jean-Pierre Arcoragi, Hugo Martel, & Pierre Bastien.* 400, 579, 217-E8 (1992)

A Binary Origin for FU Orionis Stars. *Ian Bonnell & Pierre Bastien.* 401, L31, 227-E1 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

Fragmentation of Elongated Cylindrical Clouds. V. Dependence of Mass Ratios on Initial Conditions. *Ian Bonnell & Pierre Bastien.* 401, 654, 230-F1 (1992)

Protostellar Hydrodynamics: Constructing and Testing a Spatially and Temporally Second-Order–accurate Method. I. Spherical Coordinates. *Alan P. Boss & Elizabeth A. Myhill.* 83, 311, 62-B13 (1992)

STARS: FUNDAMENTAL PARAMETERS

On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

The Inverse Planckian Transform and Temperature Spectra. *Luis Salas.* 385, 288, 15-D12 (1992)

The Luminosity of the Double-Mode Cepheid Y Carinae. *Nancy Remage Evans.* 385, 680, 21-E6 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for

Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)

Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)

A Theoretical Calibration of the Planetary Nebular Cosmic Distance Scale. *Michael A. Dopita, George H. Jacoby, & E. Vassiliadis.* 389, 27, 60-D1 (1992)

New Calibrators for the Cepheid Period-Luminosity Relation. *Nancy Remage Evans.* 389, 657, 69-E8 (1992)

The Luminosity of Supernovae of Type Ia. I. Apparent Magnitudes at Maximum Light. *Sidney van den Bergh & John Pazder.* 390, 34, 74-D13 (1992)

A Measurement of the Primordial Helium Abundance Using μ Cassiopeiae. *James W. Haywood, Dennis J. Hegyi, & Donald H. Gudehus.* 392, 172, 103-B1 (1992)

Upper Limit to the Mass of Pulsationally Stable Stars with Uniform Chemical Composition. *Richard B. Stothers.* 392, 706, 111-A7 (1992)

MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

Breakdown of the Core Mass–Luminosity Relation at High Luminosities on the Asymptotic Giant Branch. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 393, L21, 120-D1 (1992)

A Spectroscopic Determination of the Mass Distribution of DA White Dwarfs. *P. Bergeron, Rex A. Saffer, & James Liebert.* 394, 228, 130-G5 (1992)

Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

On the Absolute Magnitude of RR Lyrae Stars: UU Ceti, RV Phoenicis, and W Tucanae. *C. Cacciari, G. Clementini, & J. A. Fernley.* 396, 219, 157-G5 (1992)

A Homogeneous Catalog of New *UBV* and Hβ Photometry of B- and A-Type Stars in and around the Scorpius-Centaurus OB Association. *Robert W. Slawson, Robert J. Hill, & John D. Landstreet.* 82, 117, 50-E9 (1992)

Spectral Synthesis in the Ultraviolet. IV. A Library of Mean Stellar Groups. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 82, 197, 52-A1 (1992)

Infrared Colors of Low-Mass Stars. *S. K. Leggett.* 82, 351, 54-C1 (1992)

Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

Discovery of a Sub-Megagauss Magnetic White Dwarf through Spectropolarimetry. *Gary D. Schmidt, H. S. Stockman, & Paul S. Smith.* 398, L57, 188-A7 (1992)

The Young Large Magellanic Cloud Cluster NGC 2214 with a Single Supergiant Branch. *Myung Gyoon Lee.* 399, L133, 208-B1 (1992)

A Catalog of Faint A, F, and G Stars at the South Galactic Pole. *Phillip K. Lu, Jeffrey Miller, & Donald Platt.* 83, 203, 59-E3 (1992)

Carbon Star Luminosity Indicators. *Paul J. Green, Bruce Margon, Scott F. Anderson, & D. Jack MacConnell.* 400, 659, 218-E12 (1992)

A Distance-independent Calibration of the Luminosity of Type Ia Supernovae and the Hubble Constant. *Bruno Leibundgut & Philip A. Pinto.* 401, 49, 221-F1 (1992)

On the Mass-Ratio Distribution of Spectroscopic Binaries with Solar-Type Primaries. *Tsevi Mazeh, Dorit Goldberg, Antoine Duquennoy, & Michel Mayor.* 401, 265, 224-C9 (1992)

Photometric and Spectroscopic Analysis of High Galactic Latitude Molecular Clouds. I. Distances and Extinctions of Stars toward 25 Selected Regions. *B. E. Penprase.* 83, 273, 61-E7 (1992)

STARS: GENERAL

Interior Opacities and the Standard Solar Model. *John Faulkner & Fritz J. Swenson.* 386, L55, 36-D1 (1992)

STARS: GIANT

The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

Mass Loss from OH/IR Stars: Models for the Infrared Emission of Circumstellar Dust Shells. *K. Justtanont & A. G. G. M. Tielens.* 389, 400, 64-G10 (1992)

Asymptotic Giant Branch Stars in the Central Regions of M32. *T. J. Davidge & J.-L. Nieto.* 391, L13, 92-A1 (1992)

Constraints on the Galactic Bulge Using *IRAS* Variable Point Sources. *Martin D. Weinberg.* 392, L67, 113-C10 (1992)

The Creation of Superrich Lithium Giants. *I.-Juliana Sackmann & Arnold I. Boothroyd.* 392, L71, 113-D3 (1992)

SiC Particles from Asymptotic Giant Branch Stars: Mg Burning and the *s*-Process. *Lawrence E. Brown & Donald D. Clayton.* 392, L79, 113-E1 (1992)

SO and SO_2 in Mass-Loss Envelopes of Red Giants: Probes of Nonequilibrium Circumstellar Chemistry and Mass-Loss Rates. *Raghvendra Sahai & Peter G. Wannier.* 394, 320, 132-A3 (1992)

Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

Sodium, Aluminum, and Oxygen Abundance Variations in Giants in the Globular Cluster M4. *Jeremy J. Drake, Verne V. Smith, & Nicholas B. Suntzeff.* 395, L95, 154-A10 (1992)

STARS: HERTZSPRUNG-RUSSELL DIAGRAM

On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)

The Evolution of Intermediate-Mass Protostars. II. Influence of the Accretion Flow. *Francesco Palla & Steven W. Stahler.* 392, 667, 110-E5 (1992)

STARS: HORIZONTAL-BRANCH

The Chemical Composition of Blue Horizontal Branch Stars in M4 and NGC 6397. *David L. Lambert, Andrew McWilliam, & Verne V. Smith.* 386, 685, 33-G1 (1992)

The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

The Structure of Horizontal-Branch Models. I. The Zero-Age Horizontal Branch. *Ben Dorman.* 80, 701, 33-B5 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. III. Horizontal-Branch Sequences. *Ben Dorman.* 81, 221, 38-A3 (1992)

Optical and Infrared Imaging of Stars in the Metal-rich Globular Clusters NGC 6304 and NGC 6316. *T. J. Davidge, William E. Harris, T. J. Bridges, & D. A. Hanes.* 81, 251, 38-D5 (1992)

An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904). *Robert S. Hill, Jesse K. Hill, Wayne B. Landsman, Ralph C. Bohlin, K.-P. Cheng, Paul M. N. Hintzen, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L17, 144-F1 (1992)

STARS: IMAGING

Multiple Jets from the Young Star IRAS 21334+5039. *Howard A. Smith & Jacqueline Fischer.* 398, L99, 194-D1 (1992)

STARS: INDIVIDUAL

Constellation Name: α Andromedae

Determination of the Visual Orbit of the Spectroscopic Binary α Andromedae with Submilliarcsecond Precison. *Xiaopei Pan, Michael Shao, M. Mark Colavita, J. Thomas Armstrong, David Mozurkewich, Maddali Vivekanand, Craig S. Denison, Richard S. Simon, & Kenneth J. Johnston.* 384, 624, 9-G9 (1992)

Constellation Name: SW Andromedae

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V.*

Jones, Bruce W. Carney, Jesper Storm, & David W. Latham. 386, 646, 33-C14 (1992)

Constellation Name: AE Aquarii

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

Constellation Name: R Aquarii

Comparing Restored *HST* and VLA Imagery of R Aquarii. *J. M. Hollis, J. E. Dorband, & F. Yusef-Zadeh.* 386, 293, 27-G3 (1992)

The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*. *Denis Burgarella & Francesco Paresce.* 389, L29, 66-D10 (1992)

Constellation Name: Aquila X-1

Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

Constellation Name: FO Aquarii

On Martell and Kaitchuck's Model for the Intermediate Polar FO Aquarii. *Koji Mukai & Coel Hellier.* 391, 295, 89-E10 (1992)

Constellation Name: 20 Aquilae

The Diffuse Interstellar Cloud toward HD 179406 (20 Aquilae). *Margaret Murray Hanson, Theodore P. Snow, & John H. Black.* 392, 571, 109-C12 (1992)

Constellation Name: V603 Aquilae

Possible First Detection of Ultraviolet Pulses from an Intermediate Polar: V603 Aquila. *A. Schwarzenberg-Czerny, A. Udalski, & R. Monier.* 401, L19, 227-C7 (1992)

Constellation Name: α Aurigae

Extreme Ultraviolet Spectroscopy of Capella. *James C. Green, Erik Wilkinson, Thomas R. Ayres, & Webster Cash.* 397, L99, 181-C8 (1992)

Constellation Name: EZ Canis Majoris

The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae. *R. E. Schulte-Ladbeck, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, D. Shepherd, M. Taylor, & B. A. Whitney.* 391, L37, 92-C6 (1992)

Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris. *Carmelle Robert, Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, Wilhelm Seggewiss, Virpi S. Niemela, Miguel A. Cerruti, Paul Barrett, Jeremy Bailey, Jorge Garcia, & Santiago Tapia.* 397, 277, 171-D1 (1992)

Constellation Name: Z Canis Majoris

Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

A Binary Origin for FU Orionis Stars. *Ian Bonnell & Pierre Bastien.* 401, L31, 227-E1 (1992)

Constellation Name: AM Canum Venaticorum

On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)

Constellation Name: RS Canum Venaticorum

Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)

Constellation Name: θ Carinae

Interstellar Absorption along the Line of Sight to Theta Carinae Using *Copernicus* Observations. *M. M. Allen, E. B. Jenkins, & T. P. Snow.* 83, 261, 61-D1 (1992)

Constellation Name: AG Carinae

Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

Constellation Name: Y Carinae

The Luminosity of the Double-Mode Cepheid Y Carinae. *Nancy Remage Evans.* 385, 680, 21-E6 (1992)

Constellation Name: μ Cassiopeiae

A Measurement of the Primordial Helium Abundance Using μ Cassiopeiae. *James W. Haywood, Dennis J. Hegyi, & Donald H. Gudehus.* 392, 172, 103-B1 (1992)

Constellation Name: HT Cassiopeiae

Eclipse Studies of the Dwarf Nova HT Cassiopeiae. II. White Dwarf and Accretion Disk. *Janet H. Wood, Keith Horne, & Stephane Vennes.* 385, 294, 15-E6 (1992)

Constellation Name: α Centauri

Evolutionary Models and the p-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

Constellation Name: V854 Centauri

The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)

Constellation Name: VW Cephei

Photometric Imaging of VW Cephei. *Paul D. Hendry, Stefan W. Mochnacki, & Andrew Collier Cameron.* 399, 246, 198-C8 (1992)

Constellation Name: AL Comae

Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

Constellation Name: σ^2 Coronae Borealis

Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

Constellation Name: T Coronae Borealis

The Secondary Outburst Maximum of T Coronae Borealis: Implications for the Physics of Accretion Disks. *John K. Cannizzo & Scott J. Kenyon.* 386, L17, 29-C7 (1992)

The Nature of the Recurrent Nova T Coronae Borealis: Ultraviolet Evidence for a White Dwarf Accretor. *Pier Luigi Selvelli, Angelo Cassatella, & Roberto Gilmozzi.* 393, 289, 117-F12 (1992)

Constellation Name: TT Crateris

TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)

Constellation Name: Cygnus X-1

An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)

Constellation Name: Cygnus X-3

Is There a Recycled Old Pulsar in Cygnus X-3? *Abhas Mitra.* 384, 255, 4-B3 (1992)

Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)

Evidence for Time Variability of PeV Energy Flux from Cygnus X-3: Ooty Observations during the Period 1984–1987. *S. C. Tonwar, S. K. Gupta, M. R. Rajeev, B. V. Sreekantan, & R. Srivatsan.* 390, 273, 77-D1 (1992)

What Drives the Mass Transfer in Cygnus X-3? *Abhas Mitra.* 390, 645, 83-C8 (1992)

A Search for TeV Emission from Cygnus X-3. *K. S. O'Flaherty, M. F. Cawley, D. J. Fegan, R. C. Lamb, M. J. Lang, D. A. Lewis, M. Punch, P. T. Reynolds, G. Vacanti, & T. C. Weekes.* 396, 674, 165-F9 (1992)

Search for Periodic Gamma-Ray Emission from Cygnus X-3 by the Egret Telescope on the *Compton Gamma-Ray Observatory*. *P. F. Michelson, D. L. Bertsch, J. Chiang, C. E. Fichtel, R. C. Hartman, S. D. Hunter, G. Kanbach, D. A. Kniffen, P. W. Kwok, Y. C. Lin, J. R. Mattox, H. A. Mayer-Hasselwander, C. von Montigny, P. L. Nolan, K. Pinkau, H. Rothermel, E. Schneid, M. Sommer, P. Sreekumar, & D. J. Thompson.* 401, 724, 231-E1 (1992)

Constellation Name: Cygnus XR-1

A Reanalysis of the Orbital Inclination of Cygnus XR-1 Determined Polarimetrically. *Joseph F. Dolan.* 384, 249, 4-A9 (1992)

Constellation Name: SS Cygni

Spectral Evolution of Accretion Disks of Dwarf Novae. III. Outburst Cycle of SS Cygni. *F. H. Cheng & D. N. C. Lin.* 389, 714, 70-C5 (1992)

On the Long-Term Behavior of SS Cygni. *John K. Cannizzo & Janet A. Mattei.* 401, 642, 230-E1 (1992)

Constellation Name: V404 Cygni

Radio Observations of the 1989 Transient Event in V404 Cygni (= GS 2023+338). *Xiaohong Han & R. M. Hjellming.* 400, 304, 212-F6 (1992)

Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

Constellation Name: V444 Cygni

Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

Constellation Name: V1057 Cygni

Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

Constellation Name: DX Delphini

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)

Constellation Name: σ Draconis

The Activity Cycle of σ Draconis. *David F. Gray, Sallie L. Baliunas, G. W. Lockwood, & Brian A. Skiff.* 400, 681, 219-A1 (1992)

Constellation Name: YY Draconis

Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

Constellation Name: CP Eridani

Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

Constellation Name: Nova Herculis 1991

The Peculiar, Fast Nova Herculis 1991. *Charles E. Woodward, R. D. Gehrz, Terry J. Jones, & G. F. Lawrence.* 384, L41, 11-C1 (1992)

The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)

8–13 Micron Spectroscopy of Nova Herculis 1991. *David K. Lynch, John A. Hackwell, & Ray W. Russell.* 398, 632, 192-A5 (1992)

Constellation Name: α Lyrae

Line Shapes of Rotating Stars with Application to Alpha Lyrae. *G. H. Elste.* 384, 284, 4-D10 (1992)

A New Solar Irradiance Calibration from 3295 Å to 8500 Å Derived from Absolute Spectrophotometry of Vega. *G. W. Lockwood, H. Tüg, & N. M. White.* 390, 668, 83-E9 (1992)

Constellation Name: β Monocerotis A

The 3 Micron Spectrum of the Classical Be Star β Monocerotis A. *K. Sellgren & R. G. Smith.* 388, 178, 51-B13 (1992)

Constellation Name: θ Muscae

The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae. *R. E. Schulte-Ladbeck, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, D. Shepherd, M. Taylor, & B. A. Whitney.* 391, L37, 92-C6 (1992)

Constellation Name: Nova Muscae 1991

Periodic Variability in the Optical Counterpart of X-Ray Nova Muscae 1991. *Charles D. Bailyn.* 391, 298, 89-F1 (1992)

Discovery and X-Ray Properties of GS 1124−683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)

The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

Constellation Name: S Muscae

Absorption-Line Profiles in a Companion Spectrum of a Mass-losing Cool Supergiant. *Liliya L. Rodrigues & Erika Böhm-Vitense.* 401, 695, 231-B10 (1992)

Constellation Name: ζ Ophiuchi

Kinematics and Morphology of Material Occulting ζ Ophiuchi. *H. S. Liszt.* 390, 226, 76-G1 (1992)

Fractionation of CO in the Diffuse Clouds toward ζ Ophiuchi. *Yaron Sheffer, S. R. Federman, David L. Lambert, & Jason A. Cardelli.* 397, 482, 176-G3 (1992)

Ultraviolet Observations of the Gas Phase Abundances in the Diffuse Clouds toward ζ Ophiuchi at 3.5 Kilometers per Second Resolution. *Blair D. Savage, Jason A. Cardelli, & Ulysses J. Sofia.* 401, 706, 231-C9 (1992)

Constellation Name: ρ Ophiuchi

The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

Constellation Name: FU Orionis

On the Interpretation of the Spectrum of FU Orionis. *P. P. Petrov & G. H. Herbig.* 392, 209, 103-E1 (1992)

Optical Spectroscopy of Z Canis Majoris, V1057 Cygni, and FU Orionis: Accretion Disks and Signatures of Disk Winds. *Alan D. Welty, Stephen E. Strom, Suzan Edwards, Scott J. Kenyon, & Lee W. Hartmann.* 397, 260, 171-B11 (1992)

Constellation Name: τ Pegasi

τ Pegasi: A Fourier Representation of Line-Profile Variations. *E. J. Kennelly, G. A. H. Walker, & William J. Merryfield.* 400, L71, 220-E8 (1992)

Constellation Name: β Persei

Ginga Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)

Constellation Name: V Persei

Eclipse Maps of the Accretion Disk in the Classical Nova V Persei. *Janet H. Wood, Timothy M. C. Abbott, & Allen W. Shafter.* 393, 729, 124-G10 (1992)

Constellation Name: AI Phoenicis

The Eclipsing Binary AI Phoenicis: New Results Based on an Improved Light Curve Analysis Program. *E. F. Milone, C. R. Stagg, & R. L. Kurucz.* 79, 123, 14-E11 (1992)

Constellation Name: GK Persei

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)

Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)

Constellation Name: β Pictoris

Infrared Observations and Thermal Models of the β Pictoris Disk. *D. E. Backman, F. C. Gillett, & F. C. Witteborn.* 385, 670, 21-D8 (1992)

Constellation Name: T Pyxidis

The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)

Constellation Name: ζ Puppis

Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis. *R. K. Prinja, L. A. Balona, C. T. Bolton, R. A. Crowe, M. S. Fieldus, A. W. Fullerton, D. R. Gies, I. D. Howarth, D. McDavid, & A. H. N. Reid.* 390, 266, 77-C6 (1992)

Constellation Name: V505 Sagittarii

Secondaries of Eclipsing Binaries. VII. The Spectroscopic Triple and Visual Double V505 Sagittarii. *Jocelyn Tomkin.* 387, 631, 46-E1 (1992)

Constellation Name: Scorpius X-1

Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)

X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

Constellation Name: U Scorpii

Spectroscopy of the Recurrent Nova U Scorpii. *Helen M. Johnston & Shrinivas R. Kulkarni.* 396, 267, 158-D4 (1992)

Constellation Name: π Scorpii

Dense Clumps of Ionized Gas near π Scorpii, as Revealed by the Fine-Structure Excitation of N II. *Frank Bertoldi & Edward B. Jenkins.* 388, 495, 56-D9 (1992)

Constellation Name: DD Tauri

Resolving the Forbidden-Line Emission Regions of Young Stellar Objects: DD Tauri. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 397, L107, 181-D7 (1992)

Constellation Name: DG Tauri

10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)

Constellation Name: T Tauri

Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

Constellation Name: V471 Tauri

Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations. *J. C. Clemens, R. E. Nather, D. E. Winget, E. L. Robinson, M. A. Wood, C. F. Claver, J. Provencal, S. J. Kleinman, P. A. Bradley, M. L. Frueh, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, D. T. Wickramasinghe, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, M. A. Barstow, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, & C. J. Hansen.* 391, 773, 97-E8 (1992)

Constellation Name: RR Telescopii

Al II Emission-Line Strengths in Low-Density Astrophysical Plasmas. *F. P. Keenan, L. K. Harra, K. M. Aggarwal, & W. A. Feibelman.* 385, 375, 16-E1 (1992)

Constellation Name: Triangulum Australe X-1

SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62). *D. Barret, J. P. Roques, P. Mandrou, L. Bouchet, F. Lebrun, A. Goldwurm, P. Laurent, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Kavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 392, L19, 106-C7 (1992)

Constellation Name: 51 Tauri

MAP–based Trigonometric Parallaxes of Open Clusters. II. The Hyades: 51 Tauri. *George Gatewood, Michael Castelaz, Joost Kiewiet de Jonge, Timothy Persinger, John Stein, & Bruce Stephenson.* 392, 710, 111-A12 (1992)

Constellation Name: KO Velorum

X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477). *R. M. Sambruna, L. Chiappetti, A. Treves, J. M. Bonnet-Bidaud, P. Bouchet, L. Maraschi, C. Motch, M. Mouchet, & S. Van Amerongen.* 391, 750, 97-C9 (1992)

Constellation Name: QU Vulpeculae

A Multiwavelength Study of Nova QU Vulpeculae 1984. *Pedro Saizar, Sumner Starrfield, Gary J. Ferland, R. Mark Wagner, James W. Truran, Scott J. Kenyon, Warren M. Sparks, Robert E. Williams, & L. L. Stryker.* 398, 651, 192-B13 (1992)

Constellation Name: QV Vulpeculae

The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

Henry Draper Number: HD 698

The Orbital Parameters and the *IUE* Spectrum of the Single-lined Spectroscopic Binary HD 698. *Jorge Sahade, Rodolfo Barbá, & Yoji Kondo.* 81, 303, 39-B1 (1992)

Henry Draper Number: HD 6833

Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

Henry Draper Number: HD 47129

Tomographic Separation of Composite Spectra. I. The Components of Plaskett's Star. *William G. Bagnuolo, Jr., Douglas R. Gies, & Michael S. Wiggs.* 385, 708, 21-G12 (1992)

A Spectroscopic Search for Colliding Stellar Winds in O-Type Close Binary Systems. II. Plaskett's Star (HD 47129). *Michael S. Wiggs & Douglas R. Gies.* 396, 238, 158-A12 (1992)

Henry Draper Number: HD 44179

Spatial Structure in the 10 Micron Spectrum of HD 44179 (The Red Rectangle). *G. L. Grasdalen, G. C. Sloan, & P. D. LeVan.* 384, L25, 6-D1 (1992)

Henry Draper Number: HD 45677

Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry. *R. E. Schulte-Ladbeck, D. S. Shepherd, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, M. Taylor, & B. A. Whitney.* 401, L105, 233-D12 (1992)

Henry Draper Number: HD 64740

Highly Ionized Gas in the Gum Nebula and Elsewhere: A Comparison of *IUE* and *Copernicus* Satellite Results. *Richard J. Edgar & Blair D. Savage.* 396, 124, 156-F4 (1992)

Henry Draper Number: HD 93721

Detection of a Local High-Velocity Absorption-Line System toward HD 93721. *B. E. Penprase & J. C. Blades.* 391, 276, 89-D1 (1992)

Henry Draper Number: HD 93521

Highly Ionized Atoms toward HD 93521. *Lyman Spitzer, Jr., & Edward L. Fitzpatrick.* 391, L41, 92-C11 (1992)

Henry Draper Number: HD 114710

Evidence of Differential Surface Rotation in the Solar-Type Star HD 114710. *Robert A. Donahue & Sallie L. Baliunas.* 393, L63, 127-D1 (1992)

Henry Draper Number: HD 151804

Propagating Absorption Enhancements in the Wind of the Extreme Of Supergiant HD 151804. *A. W. Fullerton, D. R. Gies, & C. T. Bolton.* 390, 650, 83-D1 (1992)

Henry Draper Number: HD 153919

Properties of the Massive X-Ray Binary 4U 1700−37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)

Henry Draper Number: HD 183143

Spectropolarimetry of the 5797 Å Diffuse Interstellar Band. *A. J. Adamson & D. C. B. Whittet.* 398, L69, 188-C1 (1992)

Henry Draper Number: HD 190603

Velocity Structure in Optical CH^+ Lines toward HD 190603 and Implications for the Formation of CH^+. *M. M. Allen & Theodore P. Snow.* 391, 152, 87-G13 (1992)

Henry Draper Number: HD 210121

Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

Henry Draper Number: HD 191765

The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

Henry Draper Number: HD 192641

The Spectrum of the Peculiar WC7+OB Star HD 192641. *Anne B. Underhill.* 398, 636, 192-A10 (1992)

Henry Draper Number: HD 193793

Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

Henry Draper Number: HD 194279

Spectropolarimetry of the 5797 Å Diffuse Interstellar Band. *A. J. Adamson & D. C. B. Whittet.* 398, L69, 188-C1 (1992)

Name: Algol

Consequences of the Star-Stream Interaction in Algol. *Mercedes T. Richards.* 387, 329, 41-A12 (1992)

Name: Feige 7

Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)

Name: Melnick 42

Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

Alphanumeric: A0535+26

Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment. *G. Cusumano, T. Mineo, B. Sacco, L. Scarsi, G. Gerardi, B. Agrinier, E. Barouch, R. Comte, B. Parlier, J. L. Masnou, E. Massaro, G. Matt, E. Costa, M. Salvati, P. Mandrou, M. Niel, & J. F. Olive.* 398, L103, 194-E1 (1992)

Alphanumeric: A1524−62

SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62). *D. Barret, J. P. Roques, P. Mandrou, L. Bouchet, F. Lebrun, A. Goldwurm, P. Laurent, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Kavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 392, L19, 106-C7 (1992)

Alphanumeric: Ap 0323+4853

Spectroscopy of a Brown Dwarf Candidate in the α Persei Open Cluster. *Rafael Rebolo, Eduardo L. Martín, & Antonio Magazzù.* 389, L83, 73-E11 (1992)

Alphanumeric: AS 296

Ultraviolet Observations of the Symbiotic Star AS 296. *A. Gutiérrez-Moreno, H. Moreno, & W. A. Feibelman.* 395, 295, 143-G1 (1992)

Alphanumeric: EXO 0748−676

Ginga Observations of the Dipping Low-Mass X-Ray Binaries XB 1916−053 and EXO 0748−676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)

Alphanumeric: GD 165

Companions to White Dwarfs: Very Low Mass Stars and the Brown Dwarf Candidate GD 165B. *B. Zuckerman & E. E. Becklin.* 386, 260, 27-D7 (1992)

Alphanumeric: G191−B2B

The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission. *Arthur F. Davidsen, Knox S. Long, Samuel T. Durrance, William P. Blair, Charles W. Bowers, Steven J. Conard, Paul D. Feldman, Henry C. Ferguson, Glen H. Fountain, Randy A. Kimble, Gerard A. Kriss, H. Warren Moos, & Kenneth A. Potocki.* 392, 264, 104-C1 (1992)

Extreme Ultraviolet Spectroscopy of G191-B2B: Direct Observation of Ionization Edges. *Erik Wilkinson, James C. Green, & Webster Cash.* 397, L51, 173-F13 (1992)

Alphanumeric: GX 5−1

Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5−1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

Alphanumeric: H1−36

Detection of the H92α Radio Recombination Line from the Symbiotic Star H1−36 Arae. *T. S. Bastian.* 387, L77, 48-D1 (1992)

Alphanumeric: H0253+193

The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)

Alphanumeric: H0538+608

H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

Alphanumeric: HH 34

Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

Alphanumeric: IRAS 16293−2422

IRAS 16293−2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

Alphanumeric: IRC +10216

High Spatial Resolution Maps of Circumstellar SiC_2 in IRC +10216. *P. D. Gensheimer, Lauren Likkel, & L. E. Snyder.* 388, L31, 52-C11 (1992)

A Sensitive Search for Rotational Lines of Vibrationally Excited HC_5N in IRC +10°216. *M. B. Bell, P. A. Feldman, & L. W. Avery.* 396, 643, 165-D1 (1992)

The Excitation Temperature of HC_9N in the Circumstellar Envelope of IRC +10216. *M. B. Bell, L. W. Avery, J. M. MacLeod, & H. E. Matthews.* 400, 551, 217-B12 (1992)

Mass-Loss Rates for *IRAS*-bright Red Giants: A Revised Model of Circumstellar CO Emission. *Joel H. Kastner.* 401, 337, 225-B11 (1992)

A Spectral Line Survey of IRC +10216 at Millimeter and Submillimeter Wavelengths. *L. W. Avery, T. Amano, M. B. Bell, P. A. Feldman, J. W. C. Johns, J. M. MacLeod, H. E. Matthews, D. C. Morton, J. K. G. Watson, B. E. Turner, S. S. Hayashi, G. D. Watt, & A. S. Webster.* 83, 363, 62-G3 (1992)

Alphanumeric: IRC +10420

VLA Observations of 1612 and 1665 MHz OH Masers Associated with IRC +10420. *G. E. Nedoluha & P. F. Bowers.* 392, 249, 104-A9 (1992)

Alphanumeric: KS 1731−260

Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260. *D. Barret, L. Bouchet, P. Mandrou, J. P. Roques, B. Cordier, Ph. Laurent, F. Lebrun, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Khavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 394, 615, 137-B1 (1992)

Alphanumeric: L151−81A/B

The Binary System L151−81A/B: A Potential Test of Accretion Theory. *M. A. Wood & T. D. Oswalt.* 394, L53, 139-D1 (1992)

Alphanumeric: L1551 IRS 5

High-Velocity HCO^+ Emission from L1551 IRS 5: Evidence for Wind-Cloud Interactions. *Alexander Rudolph.* 397, L111, 181-D13 (1992)

Alphanumeric: LHS 1044

Discovery of Two Cool Magnetic White Dwarfs. *P. Bergeron, María-Teresa Ruiz, & S. K. Leggett.* 400, 315, 212-G5 (1992)

Alphanumeric: LHS 1734

Discovery of Two Cool Magnetic White Dwarfs. *P. Bergeron, María-Teresa Ruiz, & S. K. Leggett.* 400, 315, 212-G5 (1992)

Alphanumeric: LkHα 198

Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

Alphanumeric: MWC 349

Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

Alphanumeric: MWC 349A

Time Variations in Millimeter-Wave Radio Recombination Lines from the Be Star MWC 349A. *M. A. Gordon.* 387, 701, 47-D5 (1992)

Alphanumeric: MWC 922

The Near-Infrared [Fe II] Lines of MWC 922. *Richard J. Rudy, Peter Erwin, George S. Rossano, & R. C. Puetter.* 398, 278, 185-C1 (1992)

Alphanumeric: PG 0136+251

Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

Alphanumeric: PG 0917+342

Spectroscopic Observations of the Cataclysmic Variable PG 0917+342: An Ultra–Short-Period Nova-like System. *Danuta Dobrzycka & Steve B. Howell.* 388, 614, 57-G6 (1992)

Alphanumeric: PG 1658+441

Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

Alphanumeric: PG 1707+427

On the Pulsational Stability of the Pre–White Dwarf Star PG 1707+427. *Albert D. Grauer, Richard F. Green, & James Liebert.* 399, 686, 206-D7 (1992)

Alphanumeric: PSR 1957+20

The Continuum Eclipse of PSR 1957+20. *A. S. Fruchter & W. M. Goss.* 384, L47, 11-C9 (1992)

Alphanumeric: S-154

S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

Alphanumeric: SN 1987A

Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

Excitation of Pressure Modes in Common Envelopes. *Noam Soker.* 386, 190, 26-E1 (1992)

Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

Postexplosion Hydrodynamics of SN 1987A. *Marc Herant & Willy Benz.* 387, 294, 40-E9 (1992)

The [O I] λλ6300,6364 Doublet of SN 1987A. *Hongwei Li & Richard McCray.* 387, 309, 40-F12 (1992)

Line Fluorescence from the Ring around SN 1987A. *Eli Dwek & James E. Felten.* 387, 551, 45-E1 (1992)

Gamma-Ray Deposition and Nonthermal Excitation in Supernovae. *Cecilia Kozma & Claes Fransson.* 390, 602, 82-G1 (1992)

The Ring around SN 1987A and Rotation of the Progenitor. *Y. Eriguchi, H. Yamaoka, K. Nomoto, & M. Hashimoto.* 392, 243, 104-A1 (1992)

Postcollapse Hydrodynamics of SN 1987A: Two-dimensional Simulations of the Early Evolution. *Marc Herant, Willy Benz, & Stirling Colgate.* 395, 642, 151-B13 (1992)

Carbon Monoxide in SN 1987A. *Weihong Liu, A. Dalgarno, & S. Lepp.* 396, 679, 165-G1 (1992)

Alphanumeric: SN 1990N

Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Alphanumeric: SN 1991T

The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf? *Alexei V. Filippenko, Michael W. Richmond, Thomas Matheson, Joseph C. Shields, E. Margaret Burbidge, Ross D. Cohen, Mark Dickinson, Matthew A. Malkan, Brant Nelson, Jochen Pietz, David Schlegel, Patrick Schmeer, Hyron Spinrad, Charles C. Steidel, Hien D. Tran, & William Wren.* 384, L15, 6-C1 (1992)

Alphanumeric: SS 433

Spiral Shocks and Subday Variability in SS 433. *Sandip K. Chakrabarti & T. Matsuda.* 390, 639, 83-C1 (1992)

Alphanumeric: 4U 2206+54

EXOSAT Observations of the Be/X-Ray Binary 4U 2206+54. *Priyamvada Saraswat & Krishna M. V. Apparao.* 401, 678, 231-A1 (1992)

Alphanumeric: WD 0637+477

Discovery of a Sub-Megagauss Magnetic White Dwarf through Spectropolarimetry. *Gary D. Schmidt, H. S. Stockman, & Paul S. Smith.* 398, L57, 188-A7 (1992)

Alphanumeric: WL 16

The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)

Alphanumeric: X1850−087

X-Ray Spectrum and Time Variation of X1850−087 in the Globular Cluster NGC 6712. *Shunji Kitamoto, Hiroshi Tsunemi, & Diane Roussel-Dupre.* 391, 220, 88-F7 (1992)

Alphanumeric: XB 1916−053

Ginga Observations of the Dipping Low-Mass X-Ray Binaries XB 1916−053 and EXO 0748−676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)

STARS: INTERIORS

Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

Evolutionary Models of Halo Stars with Rotation. II. Effects of Metallicity on Lithium Depletion, and Possible Implications for the Primordial Lithium Abundance. *M. H. Pinsonneault, Constantine P. Deliyannis, & P. Demarque.* 78, 179, 4-B3 (1992)

Two-Component Gravitating Systems and Red Giant–like Structure. *Masayuki Y. Fujimoto & Kohji Tomisaka.* 385, 445, 18-F10 (1992)

The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)

The Structure and Evolution of Thorne-Żytkow Objects. *R. C. Cannon, P. P. Eggleton, A. N. Żytkow, & P. Podsiadlowski.* 386, 206, 26-F5 (1992)

The Evolution through H and He Burning of Galactic Cluster Stars. *Vittorio Castellani, Alessandro Chieffi, & Oscar Straniero.* 78, 517, 9-G11 (1992)

s-Processing in Massive Stars as a Function of Metallicity and Interpretation of Observational Trends. *C. M. Raiteri, R. Gallino, & M. Busso.* 387, 263, 40-C1 (1992)

Postexplosion Hydrodynamics of SN 1987A. *Marc Herant & Willy Benz.* 387, 294, 40-E9 (1992)

Angular Momentum Transport in Magnetized Stellar Radiative Zones. I. Numerical Solutions to the Core Spin-up Model Problem. *P. Charbonneau & K. B. MacGregor.* 387, 639, 46-E11 (1992)

Effects of Fe/C Phase Separation on the Ages of White Dwarfs. *Z. W. Xu & H. M. Van Horn.* 387, 662, 47-A1 (1992)

Carbon, Nitrogen, and Oxygen Abundances in Early B-Type Stars. *Douglas R. Gies & David L. Lambert.* 387, 673, 47-B1 (1992)

The Effect of Helium Diffusion on the Ages of Globular Clusters. *Brian Chaboyer, Constantine P. Deliyannis, Pierre Demarque, M. H. Pinsonneault, & Ata Sarajedini.* 388, 372, 55-A6 (1992)

The Contribution of Advanced Post-Hayashi Track Evolutionary Phases to the Ultraviolet Light of Elliptical Galaxies. *Marco Castellani, Marco Limongi, & Amedeo Tornambè.* 389, 227, 62-G1 (1992)

On the Interior Structure of Contact Binaries and the Light-Curve Paradox. *Jean-Louis Tassoul.* 389, 375, 64-E9 (1992)

Further Improvements of a New Model for Turbulent Convection in Stars. *V. M. Canuto & I. Mazzitelli.* 389, 724, 70-D1 (1992)

Downflows and Entropy Gradient Reversal in Deep Convection. *Kwing L. Chan & Detlef Gigas.* 389, L87, 73-F3 (1992)

Radiative Atomic Rosseland Mean Opacity Tables. *Forrest J. Rogers & Carlos A. Iglesias.* 79, 507, 20-G11 (1992)

Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

Criterion for Convection in an Inhomogeneous Star. *Richard B. Stothers & Chao-wen Chin.* 390, L33, 78-E9 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. II. Mode Trapping in Compositionally Stratified Models. *P. Brassard, G. Fontaine, F. Wesemael, & C. J. Hansen.* 80, 369, 27-E3 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. I. Evolutionary Tracks. *Don A. VandenBerg.* 391, 685, 96-E5 (1992)

Turbulent Convection with Overshooting: Reynolds Stress Approach. *V. M. Canuto.* 392, 218, 103-F1 (1992)

Setting the Clock of Stellar Models. *G. Bertelli, A. Bressan, & C. Chiosi.* 392, 522, 108-F13 (1992)

Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

The Evolution of Intermediate-Mass Protostars. II. Influence of the Accretion Flow. *Francesco Palla & Steven W. Stahler.* 392, 667, 110-E5 (1992)

Upper Limit to the Mass of Pulsationally Stable Stars with Uniform Chemical Composition. *Richard B. Stothers.* 392, 706, 111-A7 (1992)

The Structure of Horizontal-Branch Models. I. The Zero-Age Horizontal Branch. *Ben Dorman.* 80, 701, 33-B5 (1992)

The Formation of Primordial Degenerate Protostars. *Paolo Lenzuni, David F. Chernoff, & Edwin E. Salpeter.* 393, 232, 117-A11 (1992)

Minimum Mass for D and H Burning during Slow Accretion. *E. E. Salpeter.* 393, 258, 117-C12 (1992)

Tidal Disruption of a Star by a Massive Disk (The Axisymmetric Roche Problem). *John W. Woodward, Srivaths Sankaran, & Joel E. Tohline.* 394, 248, 131-B1 (1992)

Self-consistent Models of Wolf-Rayet Stars as Helium Stars with Optically Thick Winds. *Mariko Kato & Icko Iben, Jr.* 394, 305, 131-F13 (1992)

Evolutionary Models and the p-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. II. Isochrones and Luminosity Functions. *Peter A. Bergbusch & Don A. VandenBerg.* 81, 163, 37-C11 (1992)

Oxygen-enhanced Models for Globular Cluster Stars. III. Horizontal-Branch Sequences. *Ben Dorman.* 81, 221, 38-A3 (1992)

Models of White Dwarfs Distorted by Differential Rotation and Magnetic Fields. *V. S. Geroyannis & A. A. Hadjopoulos.* 81, 377, 40-B13 (1992)

Light-Curve Analysis of Classical Novae. *Mariko Kato & Icko Iben, Jr.* 394, L47, 139-C7 (1992)

A Comparative Study of Synchronization and Circularization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 395, 259, 143-D1 (1992)

On the Efficiency of Ekman Pumping for Synchronization in Close Binaries. *Monique Tassoul & Jean-Louis Tassoul.* 395, 604, 150-E5 (1992)

Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M°. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

Neutrino Energy Loss in Stellar Interiors. IV. Plasma Neutrino Process for Strongly Degenerate Electrons. *Naoki Itoh, Haruhiko Mutoh, Atsushi Hikita, & Yasuharu Kohyama.* 395, 622, 150-G5 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. IV. An Extensive Survey of the Period Structure of Evolutionary Models. *P. Brassard, G. Fontaine, F. Wesemael, & M. Tassoul.* 81, 747, 45-D3 (1992)

Solar Spin-down with Internal Magnetic Fields. *P. Charbonneau & K. B. MacGregor.* 397, L63, 174-A3 (1992)

A Formulation of Convection for Stellar Structure and Evolution Calculations without the Mixing-Length Theory Approximations. I. Application to the Sun. *Thomas Joseph Lydon, Peter A. Fox, & Sabatino Sofia.* 397, 701, 179-G3 (1992)

Spin-Orbit Interaction Effects on the Rosseland Mean Opacity. *Carlos A. Iglesias, Forrest J. Rogers, & Brian G. Wilson.* 397, 717, 180-A7 (1992)

Relativistic Two-Moment Neutrino Transport. *J. Cernohorsky & Ch. G. van Weert.* 398, 190, 184-C1 (1992)

Coalescing Binary Neutron Stars. *Christopher S. Kochanek.* 398, 234, 184-F7 (1992)

The Quasi-static Evolution of ONeMg Cores: Explosive Ignition Densities and the Collapse/Explosion Alternative. *Ramon Canal, Jordi Isern, & Javier Labay.* 398, L49, 187-G7 (1992)

Determining the Nuclear Equation of State from Neutron-Star Masses and Radii. *Lee Lindblom.* 398, 569, 191-C1 (1992)

Excitation of Gravity Waves in Common Envelopes. *Noam Soker.* 399, 185, 197-E3 (1992)

Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)

Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. I. The Mathematical Description. *Michael Gehmeyr.* 399, 265, 198-E1 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. II. Comparison of a Radiative and a Convective Model. *Michael Gehmeyr.* 399, 272, 198-E11 (1992)

The Case of G226-29: Evidence for a Pulsating DA White Dwarf with a Thick Hydrogen Layer? *G. Fontaine, P. Brassard, P. Bergeron, & F. Wesemael.* 399, L91, 201-C13 (1992)

Constraints on Element Mixing in Classical Novae. *Masayuki Y. Fujimoto & Icko Iben, Jr.* 399, 646, 206-A1 (1992)

Why Stars Inflate to and Deflate from Red Giant Dimensions. *Alvio Renzini, Laura Greggio, Claudio Ritossa, & Lilia Ferrario.* 400, 280, 212-D8 (1992)

Nuclear Solid Crust on Rotating Strange Quark Stars. *N. K. Glendenning & F. Weber.* 400, 647, 218-D11 (1992)

Rosseland Mean Opacities for Variable Compositions. *Forrest J. Rogers & Carlos A. Iglesias.* 401, 361, 225-E1 (1992)

STARS: KINEMATICS

A Complete, Multicolor Survey of Absolute Proper Motions to $B \sim 22.5$: Galactic Structure and Kinematics at the North Galactic Pole. *Steven Raymond Majewski.* 78, 87, 2-F11 (1992)

Velocity Streaming of *IRAS* Main-Sequence Disk Stars and the Episodic Enhancement of Particulate Disks by Interstellar Clouds. *Daniel P. Whitmire, John J. Matese, & Patrick G. Whitman.* 388, 190, 51-D1 (1992)

Short- and Intermediate-Period Oxygen-rich Miras. *M. Jura & S. G. Kleinmann.* 79, 105, 14-D3 (1992)

Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)

The Origin of Distant B-Type Stars in the Galactic Halo. *E. S. Conlon, P. L. Dufton, F. P. Keenan, R. J. H. McCausland, & D. Holmgren.* 400, 273, 212-C13 (1992)

Carbon Star Luminosity Indicators. *Paul J. Green, Bruce Margon, Scott F. Anderson, & D. Jack MacConnell.* 400, 659, 218-E12 (1992)

STARS: LATE-TYPE

Fe II Emission Lines. II. Excitation Mechanisms in Cool Stars. *P. G. Judge, C. Jordan, & U. Feldman.* 384, 613, 9-F10 (1992)

CN and CH Variations on the M5 Subgiant Branch. *Michael M. Briley, Graeme H. Smith, R. A. Bell, J. B. Oke, & James H. Hesser.* 387, 612, 46-C5 (1992)

X-Ray Activity as Statistical Age Indicator: The Disk G–K Giants. *G. Micela, A. Maggio, & G. S. Vaiana.* 388, 171, 51-B5 (1992)

First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)

Ionization and Excitation in Cool Giant Stars. I. Hydrogen and Helium. *Donald G. Luttermoser & Hollis R. Johnson.* 388, 579, 57-D7 (1992)

Local Dark Matter from a Carefully Selected Sample. *John N. Bahcall, Chris Flynn, & Andrew Gould.* 389, 234, 62-G9 (1992)

Carbon and Nitrogen Abundances Determined from Transition Layer Lines. *Erika Böhm-Vitense & José Mena-Werth.* 390, 253, 77-B4 (1992)

The Rotation of M Dwarfs. *Geoffrey W. Marcy & Grace H. Chen.* 390, 550, 82-B11 (1992)

Breakdown of the Core Mass–Luminosity Relation at High Luminosities on the Asymptotic Giant Branch. *Arnold I. Boothroyd & I.-Juliana Sackmann.* 393, L21, 120-D1 (1992)

Multiplicity among M Dwarfs. *Debra A. Fischer & Geoffrey W. Marcy.* 396, 178, 157-C13 (1992)

Limits on Detectability of Mass Loss from Cool Dwarfs. *D. J. Mullan, J. G. Doyle, R. O. Redman, & M. Mathioudakis.* 397, 225, 170-F12 (1992)

On the Interaction between Dust and Gas in Late-Type Stellar Atmospheres and Winds. *K. B. MacGregor & R. E. Stencel.* 397, 644, 179-A13 (1992)
Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)
Excitation of Gravity Waves in Common Envelopes. *Noam Soker.* 399, 185, 197-E3 (1992)
Nucleosynthesis and Mixing on the Asymptotic Giant Branch. I. MS and S Stars with and without Tc. *M. Busso, R. Gallino, D. L. Lambert, C. M. Raiteri, & V. V. Smith.* 399, 218, 198-A1 (1992)
Modeling SiO Maser Emission from Late-Type Stars. *Philip Lockett & Moshe Elitzur.* 399, 704, 206-F9 (1992)
Why Stars Inflate to and Deflate from Red Giant Dimensions. *Alvio Renzini, Laura Greggio, Claudio Ritossa, & Lilia Ferrario.* 400, 280, 212-D8 (1992)
High-Excitation ^{29}SiO and ^{30}SiO Maser Emission. *J. Cernicharo & V. Bujarrabal.* 401, L109, 233-E5 (1992)
Oxygen-rich Semiregular and Irregular Variables. *M. Jura & S. G. Kleinmann.* 83, 329, 62-D5 (1992)

STARS: LOW-MASS, BROWN DWARFS

Companions to White Dwarfs: Very Low Mass Stars and the Brown Dwarf Candidate GD 165B. *B. Zuckerman & E. E. Becklin.* 386, 260, 27-D7 (1992)
Candidate Brown Dwarfs in the Hyades. *Claia Bryja, Terry J. Jones, Roberta M. Humphreys, Geoffrey Lawrence, Robert L. Pennington, & William Zumach.* 388, L23, 52-C1 (1992)
Spectroscopy of a Brown Dwarf Candidate in the α Persei Open Cluster. *Rafael Rebolo, Eduardo L. Martín, & Antonio Magazzù.* 389, L83, 73-E11 (1992)
Dark Matter and Brown Dwarfs: Prospects for the Direct Detection of a Brown Dwarf Halo. *Ruth A. Daly & Gail C. McLaughlin.* 390, 423, 80-F1 (1992)
A Near-Infrared Search for Brown Dwarfs in the Pleiades. *D. A. Simons & E. E. Becklin.* 390, 431, 80-F10 (1992)
The Role of the Molecular-metallic Transition of Hydrogen in the Evolution of Jupiter, Saturn, and Brown Dwarfs. *Didier Saumon, William B. Hubbard, Gilles Chabrier, & Hugh M. Van Horn.* 391, 827, 98-B13 (1992)
Effective Temperatures of M Dwarfs. *Graham Berriman, Neill Reid, & S. K. Leggett.* 392, L31, 106-D11 (1992)
Minimum Mass for D and H Burning during Slow Accretion. *E. E. Salpeter.* 393, 258, 117-C12 (1992)
The Faintest Stars. *C. G. Tinney, J. R. Mould, & I. N. Reid.* 396, 173, 157-C6 (1992)
The Radial Velocity of the White Dwarf Giclas 29-38. *C. Barnbaum & B. Zuckerman.* 396, L31, 160-F1 (1992)
Infrared Colors of Low-Mass Stars. *S. K. Leggett.* 82, 351, 54-C1 (1992)
Excitation of Gravity Waves in Common Envelopes. *Noam Soker.* 399, 185, 197-E3 (1992)

STARS: LUMINOSITY FUNCTION, MASS FUNCTION

Constraints on the Age and Evolution of the Galaxy from the White Dwarf Luminosity Function. *M. A. Wood.* 386, 539, 32-B3 (1992)
Evolving, Dynamical Models for Collapsed-Core Globular Clusters: M15 and NGC 6624. *Robert P. Grabhorn, Haldan N. Cohn, Phyllis M. Lugger, & Brian W. Murphy.* 392, 86, 102-B1 (1992)
Multiplicity-corrected Mass Function of Main-Sequence Stars in the Solar Neighborhood. *Sarbani Basu & N. C. Rana.* 393, 373, 118-F10 (1992)
A Spectroscopic Determination of the Mass Distribution of DA White Dwarfs. *P. Bergeron, Rex A. Saffer, & James Liebert.* 394, 228, 130-G5 (1992)
Oxygen-enhanced Models for Globular Cluster Stars. II. Isochrones and Luminosity Functions. *Peter A. Bergbusch & Don A. VandenBerg.* 81, 163, 37-C11 (1992)
The Faintest Stars. *C. G. Tinney, J. R. Mould, & I. N. Reid.* 396, 173, 157-C6 (1992)

STARS: MAGNETIC FIELDS

Multiple Resonant Scattering in the Compton Upscatter Model of Gamma-Ray Bursts. *J. J. Brainerd.* 384, 545, 9-A1 (1992)
Radio Emission Altitudes in the Pulsar Magnetosphere. *J. A. Phillips.* 385, 282, 15-D5 (1992)
A Mechanism for Orbital Period Modulation in Close Binaries. *James H. Applegate.* 385, 621, 20-G4 (1992)
Constraints on the Surface Magnetic Fields of Hot Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 386, 695, 33-G13 (1992)
Angular Momentum Transport in Magnetized Stellar Radiative Zones. I. Numerical Solutions to the Core Spin-up Model Problem. *P. Charbonneau & K. B. MacGregor.* 387, 639, 46-E11 (1992)
Magnetic Fields in Damped Lyα Systems. *A. M. Wolfe, K. M. Lanzetta, & A. L. Oren.* 388, 17, 49-C5 (1992)
First Conclusive Evidence for Rotational Modulation of Stellar Radio Emission. *Jeremy Lim, Graham J. Nelson, Catarina Castro, David Kilkenny, & François van Wyk.* 388, L27, 52-C7 (1992)
Limits on the Magnetic Flux of Pre–Main-Sequence Stars. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 390, 622, 83-A9 (1992)
The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)
Models of White Dwarfs Distorted by Differential Rotation and Magnetic Fields. *V. S. Geroyannis & A. A. Hadjopoulos.* 81, 377, 40-B13 (1992)
Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)
Magnetic Field Decay in Isolated Neutron Stars. *Peter Goldreich & Andreas Reisenegger.* 395, 250, 143-C5 (1992)
X-Ray Emission from Single Magnetic Early-Type Stars. *V. V. Usov & D. B. Melrose.* 395, 575, 150-B1 (1992)
The White Dwarf Companion to PSR 0820+02. *D. Koester, G. Chanmugam, & D. Reimers.* 395, L107, 154-C7 (1992)
Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)
Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)
Dynamics of the Envelopes of Be Stars in the Equatorial Plane. II. The Influence of a Weak Magnetic Field on the Azimuthal Motion of a Slowly Expanding Wind. *Haiqi Chen & J. M. Marlborough.* 397, 242, 171-A3 (1992)
Solar Spin-down with Internal Magnetic Fields. *P. Charbonneau & K. B. MacGregor.* 397, L63, 174-A3 (1992)
Discovery of a Sub-Megagauss Magnetic White Dwarf through Spectropolarimetry. *Gary D. Schmidt, H. S. Stockman, & Paul S. Smith.* 398, L57, 188-A7 (1992)
Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)
Discovery of Two Cool Magnetic White Dwarfs. *P. Bergeron, María-Teresa Ruiz, & S. K. Leggett.* 400, 315, 212-G5 (1992)
Possible First Detection of Ultraviolet Pulses from an Intermediate Polar: V603 Aquila. *A. Schwarzenberg-Czerny, A. Udalski, & R. Monier.* 401, L19, 227-C7 (1992)
A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

STARS: MASS LOSS

Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)
On Mass-Transfer Rates in Classical Nova Precursors. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 384, 580, 9-D1 (1992)
Spherically Symmetric, Polytropic Flow. *T. Theuns & M. David.* 384, 587, 9-D9 (1992)
The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)
Classical Nova Models with Accretion Heating at Accretion Rates of 10^{-9} and 10^{-10} $M\odot$ per Year. *Dina Prialnik & Attay Kovetz.* 385, 665, 21-D1 (1992)
Radial Velocities of Carbon Stars: CO versus Optical Measurements. *Cecilia Barnbaum.* 385, 694, 21-F10 (1992)

The Bow Shock Structure of IRS 7: Wind-Wind Collision near the Galactic Center. *Farhad Yusef-Zadeh & Fulvio Melia.* 385, L41, 23-B13 (1992)

Excitation of Pressure Modes in Common Envelopes. *Noam Soker.* 386, 190, 26-E1 (1992)

Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

Polarization Variability among Wolf-Rayet Stars. VII. The Single Stars WR 14, WR 25, and WR 69. *Laurent Drissen, Carmelle Robert, & Anthony F. J. Moffat.* 386, 288, 27-F11 (1992)

Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

Constraints on the Surface Magnetic Fields of Hot Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 386, 695, 33-G13 (1992)

The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

An Accreting Black Hole Model for Sagittarius A*. *Fulvio Melia.* 387, L25, 43-C10 (1992)

Properties of Swept-up Molecular Outflows. *Colin R. Masson & Lawrence M. Chernin.* 387, L47, 43-F1 (1992)

Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

Dynamics of Wind Bubbles and Superbubbles. I. Slow Winds and Fast Winds. *Bon-Chul Koo & Christopher F. McKee.* 388, 93, 50-C1 (1992)

Dynamics of Wind Bubbles and Superbubbles. II. Analytic Theory. *Bon-Chul Koo & Christopher F. McKee.* 388, 103, 50-C12 (1992)

Mass Loss from OH/IR Stars: Models for the Infrared Emission of Circumstellar Dust Shells. *K. Justtanont & A. G. G. M. Tielens.* 389, 400, 64-G10 (1992)

Stellar Wind Collision and X-Ray Generation in Massive Binaries. *V. V. Usov.* 389, 635, 69-C10 (1992)

Probing the Circumstellar Environments of Very Young Low-Mass Stars Using Water Masers. *S. Terebey, S. N. Vogel, & P. C. Myers.* 390, 181, 76-C1 (1992)

1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras. *Alan J. Collison & John D. Fix.* 390, 191, 76-C13 (1992)

Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis. *R. K. Prinja, L. A. Balona, C. T. Bolton, R. A. Crowe, M. S. Fieldus, A. W. Fullerton, D. R. Gies, I. D. Howarth, D. McDavid, & A. H. N. Reid.* 390, 266, 77-C6 (1992)

What Drives the Mass Transfer in Cygnus X-3? *Abhas Mitra.* 390, 645, 83-C8 (1992)

Propagating Absorption Enhancements in the Wind of the Extreme Of Supergiant HD 151804. *A. W. Fullerton, D. R. Gies, & C. T. Bolton.* 390, 650, 83-D1 (1992)

The Collapse of White Dwarfs to Neutron Stars. *S. E. Woosley & E. Baron.* 391, 228, 88-G1 (1992)

The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae. *R. E. Schulte-Ladbeck, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, D. Shepherd, M. Taylor, & B. A. Whitney.* 391, L37, 92-C6 (1992)

Models of Planetary Nebula Spectral Evolution. *Kevin Volk.* 80, 347, 27-B11 (1992)

Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)

Stellar Wind Paleontology. II. Faint Halos and Historical Mass Ejection in Planetary Nebulae. *Bruce Balick, Guillermo Gonzalez, Adam Frank, & George Jacoby.* 392, 582, 109-D11 (1992)

Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

Hydromagnetic Disk Winds in Young Stellar Objects and Active Galactic Nuclei. *Guy Pelletier & Ralph E. Pudritz.* 394, 117, 129-D13 (1992)

Self-consistent Models of Wolf-Rayet Stars as Helium Stars with Optically Thick Winds. *Mariko Kato & Icko Iben, Jr.* 394, 305, 131-F13 (1992)

SO and SO_2 in Mass-Loss Envelopes of Red Giants: Probes of Nonequilibrium Circumstellar Chemistry and Mass-Loss Rates. *Raghvendra Sahai & Peter G. Wannier.* 394, 320, 132-A3 (1992)

Prevention of Accretion onto White Dwarfs by Stellar Winds. *James MacDonald.* 394, 619, 137-B8 (1992)

Light-Curve Analysis of Classical Novae. *Mariko Kato & Icko Iben, Jr.* 394, L47, 139-C7 (1992)

Possible Detection of a High-Velocity Neutral Wind in T Tauri. *Abraham Ruiz, José L. Alonso, & I. F. Mirabel.* 394, L57, 139-D7 (1992)

Mass Loss and a Possible Population II Lithium Dip. *David S. P. Dearborn, David N. Schramm, & L. M. Hobbs.* 394, L61, 139-E1 (1992)

Lithium Dilution through Main-Sequence Mass Loss. *Fritz J. Swenson & John Faulkner.* 395, 654, 151-D3 (1992)

A Determination of the Mass of Sagittarius A* from Its Radio Spectral and Source Size Measurements. *Fulvio Melia, J. R. Jokipii, & Ajay Narayanan.* 395, L87, 154-A1 (1992)

A Spectroscopic Search for Colliding Stellar Winds in O-Type Close Binary Systems. II. Plaskett's Star (HD 47129). *Michael S. Wiggs & Douglas R. Gies.* 396, 238, 158-A12 (1992)

Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chernin & Colin R. Masson.* 396, L35, 160-F8 (1992)

Hubble Space Telescope FOS Observations of KPD 0005+5106: A Subluminous WN-WC Descendant with Ongoing Mass Outflow? *Edward M. Sion & Ronald A. Downes.* 396, L79, 167-B7 (1992)

Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

Limits on Detectability of Mass Loss from Cool Dwarfs. *D. J. Mullan, J. G. Doyle, R. O. Redman, & M. Mathioudakis.* 397, 225, 170-F12 (1992)

OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)

Tidal Heating and Mass Loss in Neutron Star Binaries: Implications for Gamma-Ray Burst Models. *P. Mészáros & M. J. Rees.* 397, 570, 178-A12 (1992)

Polarization and the Envelopes of B[e] Supergiants in the Magellanic Clouds. *A. M. Magalhães.* 398, 286, 185-C11 (1992)

Why All Stars Should Possess Circumstellar Temperature Inversions. *Jack D. Scudder.* 398, 319, 185-F11 (1992)

Mapping AG Carinae: Long-Slit Spectroscopy and Coronographic Imaging of the Nebula and Jet. *Antonella Nota, Claus Leitherer, Mark Clampin, Perry Greenfield, & David A. Golimowski.* 398, 621, 191-G6 (1992)

The Nucleus of M31. *Fulvio Melia.* 398, L95, 194-C8 (1992)

Infrared Emission and Mass Loss from Evolved Stars in Elliptical Galaxies. *G. R. Knapp, J. E. Gunn, & C. G. Wynn-Williams.* 399, 76, 196-B3 (1992)

Evidence for Periodic Modulation of Presupernova Mass Loss from the Progenitor of SN 1979C. *Kurt W. Weiler, Schuyler D. Van Dyk, James E. Pringle, & Nino Panagia.* 399, 672, 206-C5 (1992)

Hubble Space Telescope Spectroscopy of OB Stars in M31. *J. B. Hutchings, L. Bianchi, H. J. G. L. M. Lamers, P. Massey, & S. C. Morris.* 400, L35, 214-E1 (1992)

Polycyclic Aromatic Hydrocarbon Formation in Carbon-rich Stellar Envelopes. *Isabelle Cherchneff, John R. Barker, & Alexander G. G. M. Tielens.* 401, 269, 224-D1 (1992)

Polarization Cancellation in the Two-Component Winds from Wolf-Rayet Stars. *M. Taylor & J. P. Cassinelli.* 401, 311, 224-G5 (1992)

Mass-Loss Rates for *IRAS*-bright Red Giants: A Revised Model of Circumstellar CO Emission. *Joel H. Kastner.* 401, 337, 225-B11 (1992)

CO in the Cometary Globules of the Helix Nebula. *P. J. Huggins, R. Bachiller, P. Cox, & T. Forveille.* 401, L43, 227-F7 (1992)

Deposition of Mass, Momentum, and Energy by Massive Stars into the Interstellar Medium. *Claus Leitherer, Carmelle Robert, & Laurent Drissen.* 401, 596, 230-A6 (1992)

Absorption-Line Profiles in a Companion Spectrum of a Mass-losing Cool Supergiant. *Liliya L. Rodrigues & Erika Böhm-Vitense.* 401, 695, 231-B10 (1992)

Evidence for a Bipolar Nebula around the Peculiar B[e] Star HD 45677 from Ultraviolet Spectropolarimetry. *R. E. Schulte-Ladbeck, D. S. Shepherd, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, M. Taylor, & B. A. Whitney.* 401, L105, 233-D12 (1992)

Oxygen-rich Semiregular and Irregular Variables. *M. Jura & S. G. Kleinmann.* 83, 329, 62-D5 (1992)

STARS: NEUTRON

Local Distribution of Old Neutron Stars. *Zsolt Frei, Xiaolan Huang, & Bohdan Paczyński.* 384, 105, 2-C10 (1992)

Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

Compton Scattering in a Converging Fluid Flow: Spherical Near-critical Accretion onto Neutron Stars. *Apostolos Mastichiadis & Nikolaos D. Kylafis.* 384, 136, 2-F7 (1992)

The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

Multiple Resonant Scattering in the Compton Upscatter Model of Gamma-Ray Bursts. *J. J. Brainerd.* 384, 545, 9-A1 (1992)

The Continuum Eclipse of PSR 1957+20. *A. S. Fruchter & W. M. Goss.* 384, L47, 11-C9 (1992)

Radio Emission Altitudes in the Pulsar Magnetosphere. *J. A. Phillips.* 385, 282, 15-D5 (1992)

Post-Newtonian Frequencies for the Pulsations of Rapidly Rotating Neutron Stars. *Curt Cutler & Lee Lindblom.* 385, 630, 21-A1 (1992)

Radiation Dynamics in X-Ray Binaries. I. Type 1 Bursts. *Mark A. Walker.* 385, 642, 21-B1 (1992)

Radiation Dynamics in X-Ray Binaries. II. Type 2 Bursts. *Mark A. Walker.* 385, 651, 21-B12 (1992)

Radiation Dynamics in X-Ray Binaries. III. Extremely Compact Objects. *Mark A. Walker.* 385, 661, 21-C10 (1992)

The Structure and Evolution of Thorne-Żytkow Objects. *R. C. Cannon, P. P. Eggleton, A. N. Żytkow, & P. Podsiadlowski.* 386, 206, 26-F5 (1992)

Dynamical Model of the Magnetic Field of Neutron Stars. *F. W. Cummings, D. D. Dixon, & P. E. Kaus.* 386, 215, 26-G3 (1992)

On the Power Spectra of the Wind-fed X-Ray Binary Pulsar GX 301−2. *Mauro Orlandini & G. E. Morfill.* 386, 703, 34-A9 (1992)

Vortex Drag and the Spin-up Time Scale for Pulsar Glitches. *Richard I. Epstein & Gordon Baym.* 387, 276, 40-D1 (1992)

Properties of the Massive X-Ray Binary 4U 1700−37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)

Light Curves of Rotating, Oscillating Neutron Stars. *T. E. Strohmayer.* 388, 138, 50-F9 (1992)

Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)

Gamma-Ray Bursts and Cosmic Rays from Accretion-induced Collapse. *Arnon Dar, Ben Zion Kozlowski, Shmuel Nussinov, & Reuven Ramaty.* 388, 164, 51-A11 (1992)

Energy Dependence of Normal Branch Quasi-periodic Intensity Oscillations in Low-Mass X-Ray Binaries. *Guy S. Miller & Frederick K. Lamb.* 388, 541, 57-A5 (1992)

CNO Destruction by Spallation and Type I X-Ray Bursts. *Jason C. Tillett & James MacDonald.* 388, 555, 57-B7 (1992)

Photon Bubbles: Overstability in a Magnetized Atmosphere. *Jonathan Arons.* 388, 561, 57-C1 (1992)

Rotating Stars: The Angular Momentum Constraints. *Fernando de Felice & Leonardo Di G. Sigalotti.* 389, 386, 64-F7 (1992)

Determining the Coherence of Micropulses. *T. E. Strohmayer, J. M. Cordes, & H. M. Van Horn.* 389, 685, 69-G12 (1992)

On the Optical Counterpart of 1E 1207.4−5209, the Central X-Ray Source of a Ring-shaped Supernova Remnant. *Giovanni F. Bignami, Patrizia A. Caraveo, & Sandro Mereghetti.* 389, L67, 73-D5 (1992)

Gamma-Ray Bursts from Planet-Magnetosphere Systems around Neutron Stars. *Hitoshi Hanami.* 389, L71, 73-D11 (1992)

Postglitch Behavior of the Crab Pulsar: Evidence for External Torque Variations. *Bennett Link, Richard I. Epstein, & Gordon Baym.* 390, L21, 78-D5 (1992)

Remarks on Triaxiality, Spin-up, and Magnetic Field Obliquity of Some Millisecond Pulsars. *W. Y. Chau, K. S. Cheng, & J. L. Zhang.* 390, 486, 81-D1 (1992)

PSR 0655+64: An Astrophysical Laboratory for Testing Relativistic Gravity Theories. *Itzhak Goldman.* 390, 494, 81-D11 (1992)

Application of the Improved Hartle Method for the Construction of General Relativistic Rotating Neutron Star Models. *F. Weber & N. K. Glendenning.* 390, 541, 82-B1 (1992)

Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

Rapid Cooling of Neutron Stars by Hyperons and Δ Isobars. *Madappa Prakash, Manju Prakash, James M. Lattimer, & C. J. Pethick.* 390, L77, 85-A1 (1992)

On the Thermal Conductivity due to Collisions between Relativistic Degenerate Electrons. *F. X. Timmes.* 390, L107, 85-D9 (1992)

X-Ray Spectrum and Time Variation of X1850−087 in the Globular Cluster NGC 6712. *Shunji Kitamoto, Hiroshi Tsunemi, & Diane Roussel-Dupre.* 391, 220, 88-F7 (1992)

The Collapse of White Dwarfs to Neutron Stars. *S. E. Woosley & E. Baron.* 391, 228, 88-G1 (1992)

Evidence for Neutral Emission above 10^{17} eV from LMC X-4. *R. Meyhandan, B. R. Dawson, R. W. Clay, L. Horton, J. Ulrichs, & M. M. Winn.* 391, 236, 88-G11 (1992)

Formation of Very Strongly Magnetized Neutron Stars: Implications for Gamma-Ray Bursts. *Robert C. Duncan & Christopher Thompson.* 392, L9, 106-B7 (1992)

Shot Noise in Gamma-Ray Bursts. *B. M. Belli.* 393, 266, 117-D9 (1992)

Deep VLA Images of Globular Clusters: NGC 6624. *Helen M. Johnston & Shrinivas R. Kulkarni.* 393, L17, 120-C8 (1992)

Neutron Stars and Gravitational Scalars. *Helmut W. Zaglauer.* 393, 685, 124-D1 (1992)

Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5−1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

The Cooling of Neutron Stars by the Direct Urca Process. *Dany Page & James H. Applegate.* 394, L17, 133-C7 (1992)

Detectability of the Gravitational Wave Signal from a Close Neutron Star Binary with Mass Transfer. *Piotr Jaranowski & Andrzej Krolak.* 394, 586, 136-F1 (1992)

A New Class of *g*-Modes in Neutron Stars. *Andreas Reisenegger & Peter Goldreich.* 395, 240, 143-B7 (1992)

Magnetic Field Decay in Isolated Neutron Stars. *Peter Goldreich & Andreas Reisenegger.* 395, 250, 143-C5 (1992)

Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M^a. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)

Postcollapse Hydrodynamics of SN 1987A: Two-dimensional Simulations of the Early Evolution. *Marc Herant, Willy Benz, & Stirling Colgate.* 395, 642, 151-B13 (1992)

Gamma-Ray Bursts as the Death Throes of Massive Binary Stars. *Ramesh Narayan, Bohdan Paczyński, & Tsvi Piran.* 395, L83, 153-G10 (1992)

Ginga Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)

Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

The Conductive Propagation of Nuclear Flames. I. Degenerate C + O and O + Ne + Mg White Dwarfs. *F. X. Timmes & S. E. Woosley.* 396, 649, 165-D9 (1992)

Pulsar PSR 1744−24A: Timing, Eclipses, and the Evolution of Neutron Star Binaries. *D. J. Nice & S. E. Thorsett.* 397, 249, 171-A12 (1992)
Tidal Heating and Mass Loss in Neutron Star Binaries: Implications for Gamma-Ray Burst Models. *P. Mészáros & M. J. Rees.* 397, 570, 178-A12 (1992)
Are Repeaters Responsible for Gamma-Ray Burst $\langle V/V_{max} \rangle < 0.5$? *R. E. Lingenfelter & J. C. Higdon.* 397, 576, 178-B7 (1992)
Spin-up of a Rapidly Rotating Star by Angular Momentum Loss: Effects of General Relativity. *Gregory B. Cook, Stuart L. Shapiro, & Saul A. Teukolsky.* 398, 203, 184-D1 (1992)
Coalescing Binary Neutron Stars. *Christopher S. Kochanek.* 398, 234, 184-F7 (1992)
The Quasi-static Evolution of ONeMg Cores: Explosive Ignition Densities and the Collapse/Explosion Alternative. *Ramon Canal, Jordi Isern, & Javier Labay.* 398, L49, 187-G7 (1992)
An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)
Determining the Nuclear Equation of State from Neutron-Star Masses and Radii. *Lee Lindblom.* 398, 569, 191-C1 (1992)
Implications of $^3P_2$ Superfluidity in the Interior of Neutron Stars. *H. F. Chau, K. S. Cheng, & K. Y. Ding.* 399, 213, 197-G9 (1992)
On the Evolution of Slowly Accreting Neutron Stars. *O. M. Blaes, R. D. Blandford, P. Madau, & L. Yan.* 399, 634, 205-G3 (1992)
Tidal Interactions of Inspiraling Compact Binaries. *Lars Bildsten & Curt Cutler.* 400, 175, 211-B1 (1992)
X-Ray Flashes from M31 Based on Extended Halo Models of Gamma-Ray Bursts. *Hui Li & Edison P. Liang.* 400, L59, 220-D3 (1992)
Hydrodynamical Evolution of Coalescing Binary Neutron Stars. *Frederic A. Rasio & Stuart L. Shapiro.* 401, 226, 223-G9 (1992)
Stellar Encounters Involving Neutron Stars in Globular Cluster Cores. *M. B. Davies, W. Benz, & J. G. Hills.* 401, 246, 224-B1 (1992)

STARS: NOVAE, CATACLYSMIC VARIABLES

The Formation of Coronal Regions in Accretion Disks. *Stephen D. Murray & Douglas N. C. Lin.* 384, 177, 3-B9 (1992)
On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)
Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)
On Mass-Transfer Rates in Classical Nova Precursors. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 384, 580, 9-D1 (1992)
The Peculiar, Fast Nova Herculis 1991. *Charles E. Woodward, R. D. Gehrz, Terry J. Jones, & G. F. Lawrence.* 384, L41, 11-C1 (1992)
Eclipse Studies of the Dwarf Nova HT Cassiopeiae. II. White Dwarf and Accretion Disk. *Janet H. Wood, Keith Horne, & Stephane Vennes.* 385, 294, 15-E6 (1992)
Classical Nova Models with Accretion Heating at Accretion Rates of 10^{-9} and 10^{-10} $M_\odot$ per Year. *Dina Prialnik & Attay Kovetz.* 385, 665, 21-D1 (1992)
The Presence of an Accretion Disk in the Eclipsing Binary System Nova Herculis 1991 Three Weeks after Outburst. *Elia M. Leibowitz, Haim Mendelson, Ezra Mashal, Dina Prialnik, & Waltraut C. Seitter.* 385, L49, 23-D1 (1992)
Spectroscopic Confirmation of High Galactic Latitude Cataclysmic Variables. *Paula Szkody & Steve B. Howell.* 78, 537, 10-C3 (1992)
TT Crateris: A Long-Period, Double-lined Dwarf Nova. *Paula Szkody, Robert E. Williams, Bruce Margon, Steve B. Howell, & Mario Mateo.* 387, 357, 41-D4 (1992)
Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)
Spectroscopic Observations of the Cataclysmic Variable PG 0917+342: An Ultra-Short-Period Nova-like System. *Danuta Dobrzycka & Steve B. Howell.* 388, 614, 57-G6 (1992)
Rare Thermonuclear Explosions in Short-Period Cataclysmic Variables, with Possible Application to the Nova-like Red Variable in the Galaxy M31. *Icko Iben, Jr., & Alexander V. Tutukov.* 389, 369, 64-E1 (1992)
Fe II Fluorescence and Anomalous C IV Doublet Intensities in Symbiotic Novae. *A. G. Michalitsianos, M. Kafatos, & S. R. Meier.* 389, 649, 69-D12 (1992)
Type I Supernovae and Accretion-induced Collapses from Cataclysmic Variables? *Mario Livio & James W. Truran.* 389, 695, 70-A10 (1992)
Spectral Evolution of Accretion Disks of Dwarf Novae. III. Outburst Cycle of SS Cygni. *F. H. Cheng & D. N. C. Lin.* 389, 714, 70-C5 (1992)
Possible Observational Consequences of Primordial Binaries in Globular Clusters. *Ronald E. Taam & D. N. C. Lin.* 390, 440, 80-G6 (1992)
Periodic Variability in the Optical Counterpart of X-Ray Nova Muscae 1991. *Charles D. Bailyn.* 391, 298, 89-F1 (1992)
Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)
X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477). *R. M. Sambruna, L. Chiappetti, A. Treves, J. M. Bonnet-Bidaud, P. Bouchet, L. Maraschi, C. Motch, M. Mouchet, & S. Van Amerongen.* 391, 750, 97-C9 (1992)
A Prediction of the γ-Ray Flux from Nova Herculis 1991. *Sumner Starrfield, Steven N. Shore, Warren M. Sparks, George Sonneborn, James W. Truran, & Michael Politano.* 391, L71, 99-E5 (1992)
Incorporation of Density Fluctuations into Photoionization Calculations. *Robert E. Williams.* 392, 99, 102-C1 (1992)
Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)
Superhump Timing in SU Ursae Majoris Systems: Implications of the Data for the Precessing Disk Model. *Lawrence A. Molnar & Henry A. Kobulnicky.* 392, 678, 110-F3 (1992)
Upper Limits for CO in the Old Galactic Novae NQ Vulpeculae, QU Vulpeculae, and Nova Vulpeculae 1987 from IRAM Observations. *Steven N. Shore & Jonathan Braine.* 392, L59, 113-C1 (1992)
The 0623+71 Bow Shock Nebula. *J. M. Hollis, R. J. Oliversen, R. M. Wagner, & W. A. Feibelman.* 393, 217, 116-G3 (1992)
The Nature of the Recurrent Nova T Coronae Borealis: Ultraviolet Evidence for a White Dwarf Accretor. *Pier Luigi Selvelli, Angelo Cassatella, & Roberto Gilmozzi.* 393, 289, 117-F12 (1992)
Spherically Symmetric, Expanding, Non–LTE Model Atmospheres for Novae during Their Early Stages. *P. H. Hauschildt, R. Wehrse, S. Starrfield, & G. Shaviv.* 393, 307, 118-A4 (1992)
Classical Novae and the Extragalactic Distance Scale. *Mario Livio.* 393, 516, 122-C1 (1992)
Eclipse Maps of the Accretion Disk in the Classical Nova V Persei. *Janet H. Wood, Timothy M. C. Abbott, & Allen W. Shafter.* 393, 729, 124-G10 (1992)
On the Role of Radioactive Decays in Powering Gamma Rays and X-Rays from Novae. *Mario Livio, Apostolos Mastichiadis, Hakki Ögelman, & James W. Truran.* 394, 217, 130-F5 (1992)
The Role of the Dwarf Nova Period Distribution in Understanding the Evolution of Cataclysmic Variables. *Allen W. Schafter.* 394, 268, 131-C12 (1992)
Thermonuclear Runaways in Nova Outbursts. *Anurag Shankar, David Arnett, & Bruce A. Fryxell.* 394, L13, 133-C1 (1992)
The Photometric Period of the Recurrent Nova T Pyxidis. *Bradley E. Schaefer, Arlo U. Landolt, Nikolaus Vogt, David Buckley, Brian Warner, Alistair R. Walker, & Howard E. Bond.* 81, 321, 39-C9 (1992)
Discovery and X-Ray Properties of GS 1124−683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)
Light-Curve Analysis of Classical Novae. *Mariko Kato & Icko Iben, Jr.* 394, L47, 139-C7 (1992)
The Spectroscopic and Photometric Evolution of Novae in the Bulge of M31. *Austin B. Tomaney & Allen W. Shafter.* 81, 683, 45-C11 (1992)
Spectroscopy of the Recurrent Nova U Scorpii. *Helen M. Johnston & Shrinivas R. Kulkarni.* 396, 267, 158-D4 (1992)
The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

Radiative Equilibrium in Rapidly Expanding Shells. *P. H. Hauschildt.* 398, 224, 184-E9 (1992)

8–13 Micron Spectroscopy of Nova Herculis 1991. *David K. Lynch, John A. Hackwell, & Ray W. Russell.* 398, 632, 192-A5 (1992)

A Multiwavelength Study of Nova QU Vulpeculae 1984. *Pedro Saizar, Sumner Starrfield, Gary J. Ferland, R. Mark Wagner, James W. Truran, Scott J. Kenyon, Warren M. Sparks, Robert E. Williams, & L. L. Stryker.* 398, 651, 192-B13 (1992)

Constraints on Element Mixing in Classical Novae. *Masayuki Y. Fujimoto & Icko Iben, Jr.* 399, 646, 206-A1 (1992)

Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

Radio Observations of the 1989 Transient Event in V404 Cygni (= GS 2023+338). *Xiaohong Han & R. M. Hjellming.* 400, 304, 212-F6 (1992)

The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)

The Peculiar Infrared Temporal Development of Nova Vulpeculae 1987 (QV Vulpeculae). *R. D. Gehrz, T. J. Jones, C. E. Woodward, M. A. Greenhouse, R. M. Wagner, T. E. Harrison, T. L. Hayward, & J. Benson.* 400, 671, 218-G1 (1992)

Dynamics of Eccentric Disks with Application to Superhump Binaries. *Stephen H. Lubow.* 401, 317, 225-A1 (1992)

AE Aquarii: An Emitter of Pulsed TeV Gamma Rays Resembling Optical Emission during Flares. *P. J. Meintjes, B. C. Raubenheimer, O. C. de Jager, C. Brink, H. I. Nel, A. R. North, G. van Urk, & B. Visser.* 401, 325, 225-A11 (1992)

Possible First Detection of Ultraviolet Pulses from an Intermediate Polar: V603 Aquila. *A. Schwarzenberg-Czerny, A. Udalski, & R. Monier.* 401, L19, 227-C7 (1992)

A Search for Circular Polarization in Cataclysmic Variables. *H. S. Stockman, Gary D. Schmidt, G. Berriman, James Liebert, R. L. Moore, & D. T. Wickramasinghe.* 401, 628, 230-C13 (1992)

On the Long-Term Behavior of SS Cygni. *John K. Cannizzo & Janet A. Mattei.* 401, 642, 230-E1 (1992)

Another Neon Nova: Early Infrared Photometry and Spectroscopy of Nova Cygni 1992. *T. L. Hayward, R. D. Gehrz, J. W. Miles, & J. R. Houck.* 401, L101, 233-D5 (1992)

STARS: OSCILLATIONS

On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)

Post-Newtonian Frequencies for the Pulsations of Rapidly Rotating Neutron Stars. *Curt Cutler & Lee Lindblom.* 385, 630, 21-A1 (1992)

The Luminosity of the Double-Mode Cepheid Y Carinae. *Nancy Remage Evans.* 385, 680, 21-E6 (1992)

Toward a Resolution of the Bump and Beat Cepheid Mass Discrepancies. *Paweł Moskalik, J. Robert Buchler, & Ariel Marom.* 385, 685, 21-E13 (1992)

Excitation of Pressure Modes in Common Envelopes. *Noam Soker.* 386, 190, 26-E1 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)

Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)

Evolution versus Pulsation along the Horizontal Branch of M15. *Norman R. Simon.* 387, 162, 39-A3 (1992)

Light Curves of Rotating, Oscillating Neutron Stars. *T. E. Strohmayer.* 388, 138, 50-F9 (1992)

On the Pulsations of Relativistic Accretion Disks and Rotating Stars: The Cowling Approximation. *James R. Ipser & Lee Lindblom.* 389, 392, 64-G1 (1992)

New Calibrators for the Cepheid Period-Luminosity Relation. *Nancy Remage Evans.* 389, 657, 69-E8 (1992)

Determining the Coherence of Micropulses. *T. E. Strohmayer, J. M. Cordes, & H. M. Van Horn.* 389, 685, 69-G12 (1992)

The Discovery of a New DAV Star Using *IUE* Temperature Determination. *A. Kanaan, S. O. Kepler, O. Giovannini, & M. Diaz.* 390, L89, 85-B7 (1992)

Pulsational Study of BL Herculis Models. I. Radial Velocities. *J. Robert Buchler & Paweł Moskalik.* 391, 736, 97-B6 (1992)

Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations. *J. C. Clemens, R. E. Nather, D. E. Winget, E. L. Robinson, M. A. Wood, C. F. Claver, J. Provencal, S. J. Kleinman, P. A. Bradley, M. L. Frueh, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, D. T. Wickramasinghe, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, M. A. Barstow, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, & C. J. Hansen.* 391, 773, 97-E8 (1992)

Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

Axion Cooling of White Dwarfs. *J. Isern, M. Hernanz, & E. Garcia-Berro.* 392, L23, 106-D1 (1992)

Upper Limit to the Mass of Pulsationally Stable Stars with Uniform Chemical Composition. *Richard B. Stothers.* 392, 706, 111-A7 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. III. A Finite-Element Code for Solving Nonradial Pulsation Equations. *P. Brassard, C. Pelletier, G. Fontaine, & F. Wesemael.* 80, 725, 33-D11 (1992)

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

Diskoseismology: Probing Accretion Disks. II. *G*-Modes, Gravitational Radiation Reaction, and Viscosity. *Michael A. Nowak & Robert V. Wagoner.* 393, 697, 124-E1 (1992)

Evolutionary Models and the *p*-Mode Oscillation Spectrum of α Centauri A and B. *Peter Edmonds, Lawrence Cram, Pierre Demarque, D. B. Guenther, & Marc H. Pinsonneault.* 394, 313, 131-G9 (1992)

The Discovery of an Extremely Low Amplitude Cepheid? *R. Paul Butler.* 394, L25, 133-D5 (1992)

Effects of Differential Rotation on Stellar Oscillations: A Second-Order Theory. *W. A. Dziembowski & Philip R. Goode.* 394, 670, 137-G5 (1992)

A New Class of *g*-Modes in Neutron Stars. *Andreas Reisenegger & Peter Goldreich.* 395, 240, 143-B7 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. IV. An Extensive Survey of the Period Structure of Evolutionary Models. *P. Brassard, G. Fontaine, F. Wesemael, & M. Tassoul.* 81, 747, 45-D3 (1992)

On the Absolute Magnitude of RR Lyrae Stars: UU Ceti, RV Phoenicis, and W Tucanae. *C. Cacciari, G. Clementini, & J. A. Fernley.* 396, 219, 157-G5 (1992)

Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)

Oscillations and Collapse of Compressible Homogeneous Rotating Spheroids with Electron Degeneracy. *T. T. Chia & S. Y. Pung.* 398, 574, 191-C7 (1992)

Noise-driven Radiative Shocks. II. Further Implications for the Quasi-periodic Oscillations of the AM Herculis Objects. *Kent S. Wood, James N. Imamura, & Michael T. Wolff.* 398, 593, 191-E1 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. I. The Mathematical Description. *Michael Gehmeyr.* 399, 265, 198-E1 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. II. Comparison of a Radiative and a Convective Model. *Michael Gehmeyr.* 399, 272, 198-E11 (1992)

The Case of G226-29: Evidence for a Pulsating DA White Dwarf with a Thick Hydrogen Layer? *G. Fontaine, P. Brassard, P. Bergeron, & F. Wesemael.* 399, L91, 201-C13 (1992)

On the Pulsational Stability of the Pre–White Dwarf Star PG 1707+427. *Albert D. Grauer, Richard F. Green, & James Liebert.* 399, 686, 206-D7 (1992)

τ Pegasi: A Fourier Representation of Line-Profile Variations. *E. J. Kennelly, G. A. H. Walker, & William J. Merryfield.* 400, L71, 220-E8 (1992)

Oxygen-rich Semiregular and Irregular Variables. *M. Jura & S. G. Kleinmann.* 83, 329, 62-D5 (1992)

STARS: PLANETARY SYSTEMS

Rocks around the Clock: Limits on Pulsar Planetary Systems. *S. E. Thorsett & J. A. Phillips.* 387, L69, 48-C6 (1992)

Discovering Planetary Systems through Gravitational Microlenses. *Andrew Gould & Abraham Loeb.* 396, 104, 156-D6 (1992)

An Examination of the $m = 1$ Instability in a Low-Mass Protoplanetary Disk. *Hyerim Noh, Ethan T. Vishniac, & William D. Cochran.* 397, 347, 172-B11 (1992)

Planets in Globular Clusters? *Steinn Sigurdsson.* 399, L95, 201-D5 (1992)

STARS: POPULATION II

Evolutionary Models of Halo Stars with Rotation. II. Effects of Metallicity on Lithium Depletion, and Possible Implications for the Primordial Lithium Abundance. *M. H. Pinsonneault, Constantine P. Deliyannis, & P. Demarque.* 78, 179, 4-B3 (1992)

Discovery of a Fast Wind from a Field Population II Giant Star. *A. K. Dupree, Dimitar D. Sasselov, & John B. Lester.* 387, L85, 48-D11 (1992)

Evolution of Beryllium Abundances in the Galactic Halo. *Sean G. Ryan, John E. Norris, M. S. Bessell, & Constantine P. Deliyannis.* 388, 184, 51-C6 (1992)

Evidence for Dwarf Stars at $D \sim 100$ Kiloparsecs near the Sextans Dwarf Spheroidal Galaxy. *Andrew Gould, Puragra Guhathakurta, Douglas Richstone, & Chris Flynn.* 388, 345, 54-F1 (1992)

The Formation of Primordial Degenerate Protostars. *Paolo Lenzuni, David F. Chernoff, & Edwin E. Salpeter.* 393, 232, 117-A11 (1992)

Mass Loss and a Possible Population II Lithium Dip. *David S. P. Dearborn, David N. Schramm, & L. M. Hobbs.* 394, L61, 139-E1 (1992)

Abundances for Giant Stars in the Draco Dwarf Galaxy. *Matthew D. Lehnert, R. A. Bell, James E. Hesser, & J. B. Oke.* 395, 466, 148-C9 (1992)

Two New Lithium-deficient Population II Dwarfs. *J. A. Thorburn.* 399, L83, 201-B13 (1992)

STARS: POST–ASYMPTOTIC GIANT BRANCH

The Multiple Molecular Winds of CRL 2688. *K. Young, G. Serabyn, T. G. Phillips, G. R. Knapp, R. Güsten, & A. Schulz.* 385, 265, 15-B13 (1992)

The Evolution of High-Metallicity Horizontal-Branch Stars and the Origin of the Ultraviolet Light in Elliptical Galaxies. *E. Horch, P. Demarque, & M. Pinsonneault.* 388, L53, 59-B7 (1992)

Models of Planetary Nebula Spectral Evolution. *Kevin Volk.* 80, 347, 27-B11 (1992)

Discovery of Hot Ammonia in the Proto–Planetary Nebulae CRL 618 and CRL 2688. *Jesús Martín-Pintado & Rafael Bachiller.* 391, L93, 99-G12 (1992)

Hot Post–Asymptotic Giant Branch Stars at High Galactic Latitudes. *R. J. H. McCausland, E. S. Conlon, P. L. Dufton, & F. P. Keenan.* 394, 298, 131-F5 (1992)

An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904). *Robert S. Hill, Jesse K. Hill, Wayne B. Landsman, Ralph C. Bohlin, K.-P. Cheng, Paul M. N. Hintzen, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L17, 144-F1 (1992)

The Ultraviolet-bright Stars of Omega Centauri, M3, and M13. *Wayne B. Landsman, Robert W. O'Connell, Jonathan H. Whitney, Ralph C. Bohlin, Robert S. Hill, Stephen P. Maran, Ronald A. Parise, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L21, 144-F9 (1992)

Nonequilibrium Iron Oxide Formation in Some Low-Mass Post–Asymptotic Giant Branch Stars. *Frans J. M. Rietmeijer.* 400, L39, 214-E6 (1992)

STARS: PRE–MAIN-SEQUENCE

Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)

The Molecular Core in the AFGL 5157 Region. *José M. Torrelles, Carlos Eiroa, Rainer Mauersberger, Robert Estalella, Luis F. Miranda, & Guillem Anglada.* 384, 528, 8-F7 (1992)

On the Origin of Submillimeter Emission from Young Stars in Taurus-Auriga. *Mary Barsony & Scott J. Kenyon.* 384, L53, 11-D1 (1992)

The Triple Radio Continuum Source in Serpens: Its Interaction with the Ambient Molecular Gas. *J. M. Torrelles, J. F. Gómez, S. Curiel, C. Eiroa, L. F. Rodríguez, & P. T. P. Ho.* 384, L59, 11-D7 (1992)

A Study of the Stellar Population in the Chamaeleon Dark Clouds. *Lisa S. Gauvin & Karen M. Strom.* 385, 217, 14-F1 (1992)

The Inverse Planckian Transform and Temperature Spectra. *Luis Salas.* 385, 288, 15-D12 (1992)

IRAS 16293–2422: A Very Young Binary System? *Lee G. Mundy, Alwyn Wootten, Bruce A. Wilking, Geoffrey A. Blake, & Anneila I. Sargent.* 385, 306, 15-F5 (1992)

Discovery of Outflows from Young Stellar Objects in Bok Globules. *João Lin Yun & Dan P. Clemens.* 385, L21, 17-C6 (1992)

A Catalog of Co-added *IRAS* Fluxes of Orion Population Stars. *Wm. Bruce Weaver & Gordon Jones.* 78, 239, 4-G7 (1992)

Knots in Stellar Jets from Time-dependent Sources. *A. C. Raga & Lev Kofman.* 386, 222, 27-A1 (1992)

Winds from T Tauri Stars. II. Balmer Line Profiles for Inner Disk Winds. *Nuria Calvet, Lee Hartmann, & Robert Hewett.* 386, 229, 27-A9 (1992)

Balmer Line Profiles for Infalling T Tauri Envelopes. *Nuria Calvet & Lee Hartmann.* 386, 239, 27-B8 (1992)

Star Formation in Taurus. I. The *IRAS* Faint Source Survey. *C. A. Beichman, F. Boulanger, & M. Moshir.* 386, 248, 27-C5 (1992)

10 AU Scale Halo Structure around DG Tauri. *Wen Ping Chen, R. R. Howell, M. Simon, & J. A. Benson.* 387, L43, 43-E8 (1992)

Properties of Swept-up Molecular Outflows. *Colin R. Masson & Lawrence M. Chernin.* 387, L47, 43-F1 (1992)

The Magnetic Collimation of Bipolar Outflows. I. Adiabatic Simulations. *James M. Stone & Michael L. Norman.* 389, 297, 63-F1 (1992)

Rotating Stars: The Angular Momentum Constraints. *Fernando de Felice & Leonardo Di G. Sigalotti.* 389, 386, 64-F7 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. II. Results and a Length Scale for Protostellar Cores. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 144, 75-G1 (1992)

Ambipolar Diffusion, Cloud Cores, and Star Formation: Two-dimensional, Cylindrically Symmetric Contraction. III. A Further Parameter Study and Magnetically Controlled Accretion Rate. *Telemachos Ch. Mouschovias & Scott A. Morton.* 390, 166, 76-A11 (1992)

Limits on the Magnetic Flux of Pre–Main-Sequence Stars. *Gibor Basri, Geoffrey W. Marcy, & Jeff A. Valenti.* 390, 622, 83-A9 (1992)

Near-Infrared Polarized Images of a Nebula around T Tauri. *David A. Weintraub, Joel H. Kastner, B. Zuckerman, & Ian Gatley.* 391, 784, 97-F7 (1992)

Infrared Studies of Pre–Main-Sequence Intermediate-Mass Stars: LkHα 198. *Antonella Natta, Francesco Palla, Harold M. Butner, Neal J. Evans II, & Paul M. Harvey.* 391, 805, 98-A1 (1992)

Chemistry in Circumstellar Disks: CS toward HL Tauri. *Geoffrey A. Blake, Ewine F. van Dishoeck, & Anneila I. Sargent.* 391, L99, 100-A5 (1992)

Structure and Kinematics of the HH 111 Jet. *Bo Reipurth, A. C. Raga, & Steve Heathcote.* 392, 145, 102-F10 (1992)

Lithium Abundances in Classical and Weak T Tauri Stars. *Antonio Magazzù, Rafael Rebolo, & Yakov V. Pavlenko.* 392, 159, 103-A1 (1992)

The Evolution of Intermediate-Mass Protostars. II. Influence of the Accretion Flow. *Francesco Palla & Steven W. Stahler.* 392, 667, 110-E5 (1992)

Interpreting Infrared Color-Color Diagrams: Circumstellar Disks around Low- and Intermediate-Mass Young Stellar Objects. *Charles J. Lada & Fred C. Adams.* 393, 278, 117-E12 (1992)

VLA Imaging of a Possible Circumstellar Disk around HL Tauri. *L. F. Rodríguez, J. Cantó, J. M. Torrelles, J. F. Gómez, & P. T. P. Ho.* 393, L29, 120-E1 (1992)

Measurement of CO Overtone Line Profiles in SVS 13. *John S. Carr & Alan T. Tokunaga.* 393, L67, 127-D7 (1992)

Hydromagnetic Disk Winds in Young Stellar Objects and Active Galactic Nuclei. *Guy Pelletier & Ralph E. Pudritz.* 394, 117, 129-D13 (1992)

Emission-Line Studies of Young Stars. III. Correlations with the Infrared Excess. *Fred Hamann & S. E. Persson.* 394, 628, 137-C5 (1992)

Possible Detection of a High-Velocity Neutral Wind in T Tauri. *Abraham Ruiz, José L. Alonso, & I. F. Mirabel.* 394, L57, 139-D7 (1992)

Evidence for a Wind-swept Cavity in HH 34? *Alexander Rudolph & William J. Welch.* 395, 488, 148-F3 (1992)

Radio Continuum from the Powering Sources of the RNO 43, Haro 4-255 FIR, B335, and PV Cephei Outflows and from the Herbig-Haro Object 32A. *G. Anglada, L. F. Rodríguez, J. Cantó, R. Estalella, & J. M. Torrelles.* 395, 494, 148-G1 (1992)

Global Aspects of Dynamics and Star Formation in Taurus. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 395, 501, 148-G13 (1992)

Near-Infrared Observations of Young Stellar Objects in the ρ Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 395, 516, 149-B5 (1992)

Model Scattering Envelopes of Young Stellar Objects. I. Method and Application to Circumstellar Disks. *Barbara A. Whitney & Lee Hartmann.* 395, 529, 149-D1 (1992)

The 8–13 Micron Spectrum of the Young Stellar Object WL 16. *M. S. Hanner, A. T. Tokunaga, & T. R. Geballe.* 395, L111, 154-C12 (1992)

Evidence for Unseen Companions around T Tauri Stars. *Kenneth A. Marsh & Michael J. Mahoney.* 395, L115, 154-D1 (1992)

Extremely High Velocity CO Emission from NGC 2071. *Lawrence M. Chernin & Colin R. Masson.* 396, L35, 160-F8 (1992)

On the Detectability of the Gas of Other Solar Nebulae. *Toshihiro Omodaka, Yoshimi Kitamura, & Eiko Kawazoe.* 396, L87, 167-C7 (1992)

On the Nature of the Excitation of Herbig-Haro Object 2. *José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, Guillem Anglada, José F. Gómez, Salvador Curiel, & Paul T. P. Ho.* 396, L95, 167-D7 (1992)

Neutral Winds from Protostars. *Carlo Giovanardi, Susana Lizano, Antonella Natta, Neal J. Evans II, & Carl Heiles.* 397, 214, 170-E13 (1992)

Dusty Disks in the Multiple Systems UZ Tauri and GG Tauri. *M. Simon & S. Guilloteau.* 397, L47, 173-F9 (1992)

Emission-Line Studies of Young Stars. I. The T Tauri Stars. *Fred Hamann & S. E. Persson.* 82, 247, 52-F9 (1992)

Emission-Line Studies of Young Stars. II. The Herbig Ae/Be Stars. *Fred Hamann & S. E. Persson.* 82, 285, 53-C11 (1992)

IRAS Observations of Young Stellar Objects in the Corona Australis Dark Cloud. *Bruce A. Wilking, Thomas P. Greene, Charles J. Lada, Michael R. Meyer, & Erick T. Young.* 397, 520, 177-C9 (1992)

Herbig Ae/Be Stars: Intermediate-Mass Stars Surrounded by Massive Circumstellar Accretion Disks. *Lynne A. Hillenbrand, Stephen E. Strom, Frederick J. Vrba, & Jocelyn Keene.* 397, 613, 178-F1 (1992)

Resolving the Forbidden-Line Emission Regions of Young Stellar Objects: DD Tauri. *Ana I. Gomez de Castro & Ralph E. Pudritz.* 397, L107, 181-D7 (1992)

Infrared Emission from Dust Structures Surrounding Herbig Ae/Be Stars. *F. Berrilli, G. Corciulo, G. Ingrosso, D. Lorenzetti, B. Nisini, & F. Strafella.* 398, 254, 185-A1 (1992)

Near-Infrared Spectrophotometry of FU Orionis Variables. *S. Sato, K. Okita, T. Yamashita, K. Mizutani, H. Shiba, Y. Kobayashi, & H. Takami.* 398, 273, 185-B7 (1992)

Rotation Periods of T Tauri Stars in the Orion Nebula Cluster: A Bimodal Frequency Distribution. *Joanne M. Attridge & William Herbst.* 398, L61, 188-B1 (1992)

The Bow Shock and Mach Disk of HH 34. *Jon A. Morse, Patrick Hartigan, Gerald Cecil, John C. Raymond, & Steve Heathcote.* 399, 231, 198-B3 (1992)

Cool Mass-losing Boundary Layers of T Tauri Accretion Disks. *Claude Bertout & Oded Regev.* 399, L163, 208-E1 (1992)

Spectacular Herbig-Haro Objects in the Carina Region. *K. Ogura & J. R. Walsh.* 400, 248, 212-A7 (1992)

Circumprotostellar Environments. I. Molecular Outflows from Protostar Candidates in Taurus. *G. H. Moriarty-Schieven, P. G. Wannier, M. Tamura, & Jocelyn Keene.* 400, 260, 212-B10 (1992)

The FU Orionis–Type Spectrum and Bipolar Outflow of Parsamyan 21. *H. J. Staude & Th. Neckel.* 400, 556, 217-C6 (1992)

A Binary Origin for FU Orionis Stars. *Ian Bonnell & Pierre Bastien.* 401, L31, 227-E1 (1992)

VLBI Survey of ρ Ophiuchi: A Population of Magnetized, Diskless Young Stellar Objects. *Philippe André, Bryan D. Deeney, Robert B. Phillips, & Jean-François Lestrade.* 401, 667, 230-G1 (1992)

STARS: PULSARS: GENERAL

Is There a Recycled Old Pulsar in Cygnus X-3? *Abhas Mitra.* 384, 255, 4-B3 (1992)

Precision Measurements of Pulsar Dispersion. *J. A. Phillips & A. Wolszczan.* 385, 273, 15-C8 (1992)

Radio Emission Altitudes in the Pulsar Magnetosphere. *J. A. Phillips.* 385, 282, 15-D5 (1992)

The Dynamical Evolution of Tidal Capture Binaries. *Christopher S. Kochanek.* 385, 604, 20-E13 (1992)

Low-Mass X-Ray Binary Evolution and the Origin of Millisecond Pulsars. *Juhan Frank, Andrew R. King, & Jean-Pierre Lasota.* 385, L45, 23-C8 (1992)

Vortex Drag and the Spin-up Time Scale for Pulsar Glitches. *Richard I. Epstein & Gordon Baym.* 387, 276, 40-D1 (1992)

Gamma-Ray Bursts and Radio Pulsar Glitches. *D. Hartmann, K. Hurley, & M. Niel.* 387, 622, 46-D1 (1992)

Rocks around the Clock: Limits on Pulsar Planetary Systems. *S. E. Thorsett & J. A. Phillips.* 387, L69, 48-C6 (1992)

Photodissociation in Strong Magnetic Fields and Application to Pulsars. *V. B. Bhatia, Namrata Chopra, & N. Panchapakesan.* 388, 131, 50-F1 (1992)

Light Curves of Rotating, Oscillating Neutron Stars. *T. E. Strohmayer.* 388, 138, 50-F9 (1992)

Determining the Coherence of Micropulses. *T. E. Strohmayer, J. M. Cordes, & H. M. Van Horn.* 389, 685, 69-G12 (1992)

Relativistic Magnetosonic Shock Waves in Synchrotron Sources: Shock Structure and Nonthermal Acceleration of Positrons. *Masahiro Hoshino, Jonathan Arons, Yves A. Gallant, & A. Bruce Langdon.* 390, 454, 81-A9 (1992)

Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

Remarks on Triaxiality, Spin-up, and Magnetic Field Obliquity of Some Millisecond Pulsars. *W. Y. Chau, K. S. Cheng, & J. L. Zhang.* 390, 486, 81-D1 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. II. Mode Trapping in Compositionally Stratified Models. *P. Brassard, G. Fontaine, F. Wesemael, & C. J. Hansen.* 80, 369, 27-E3 (1992)

Galactic Gamma-Ray Emission from Radio Pulsars. *M. Bailes & D. A. Kniffen.* 391, 659, 96-C1 (1992)

Formation of Very Strongly Magnetized Neutron Stars: Implications for Gamma-Ray Bursts. *Robert C. Duncan & Christopher Thompson.* 392, L9, 106-B7 (1992)

Long-Term Pulsar Flux Monitoring and Refractive Interstellar Scintillation. *Victoria M. Kaspi & Daniel R. Stinebring.* 392, 530, 108-G8 (1992)

The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)

Electromagnetically Driven Relativistic Jets: A Class of Self-similar Solutions. *Zhi-Yun Li, Tzihong Chiueh, & Mitchell C. Begelman.* 394, 459, 135-B1 (1992)

An Analysis of Radio Pulsar Nulling Statistics. *James D. Biggs.* 394, 574, 136-D13 (1992)

Pulsar Nebulae in Supernovae. *Roger A. Chevalier & Claes Fransson.* 395, 540, 149-E3 (1992)

Magnetized Stimulated Scattering in Pulsar Winds. *Mark W. Sincell & Julian H. Krolik.* 395, 553, 149-F7 (1992)

High-Resolution Optical Imaging of the Large Magellanic Cloud Plerion 0540−69. *P. A. Caraveo, G. F. Bignami, S. Mereghetti, & M. Mombelli.* 395, L103, 154-B11 (1992)

Effects of Evolving Rotating Equilibrium Configurations on the Cooling and Spin-down of Pulsars. *K. S. Cheng, W. Y. Chau, J. L. Zhang, & H. F. Chau.* 396, 135, 156-G3 (1992)

Production of Recycled Pulsars in Globular Clusters via Two-Body Tidal Capture. *R. Di Stefano & S. Rappaport.* 396, 587, 164-F9 (1992)

The Perihelion Problem in Kaluza-Klein Gravity. *Paul H. Lim & Paul S. Wesson.* 397, L91, 181-B8 (1992)

Spin-up of a Rapidly Rotating Star by Angular Momentum Loss: Effects of General Relativity. *Gregory B. Cook, Stuart L. Shapiro, & Saul A. Teukolsky.* 398, 203, 184-D1 (1992)

Very High Energy Gamma Rays from Isolated Radio Pulsars: A Survey. *H. I. Nel, B. C. Raubenheimer, O. C. De Jager, C. Brink, P. J. Meintjes, A. R. North, & G. Van Urk.* 398, 602, 191-E11 (1992)

Gamma-Ray Bursts from Extragalactic Radio Pulsars. *Fulvio Melia & Marco Fatuzzo.* 398, L85, 194-B10 (1992)

Planets in Globular Clusters? *Steinn Sigurdsson.* 399, L95, 201-D5 (1992)

Gamma Radiation from Pulsar Magnetospheric Gaps. *James Chiang & Roger W. Romani.* 400, 629, 218-C1 (1992)

Radiation from a Relativistic Magnetized Star. *V. Belinsky & R. Ruffini.* 401, L27, 227-D7 (1992)

A Novel Mechanism for Creating Double Pulsars. *Steinn Sigurdsson & Lars Hernquist.* 401, L93, 233-C7 (1992)

STARS: PULSARS: INDIVIDUAL

Name: Centaurus X-3

Ginga Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

Name: Crab Nebula

Postglitch Behavior of the Crab Pulsar: Evidence for External Torque Variations. *Bennett Link, Richard I. Epstein, & Gordon Baym.* 390, L21, 78-D5 (1992)

On the 440 keV Line in the Crab Nebula Pulsar. *W. Bednarek, O. Cremonesi, & A. Treves.* 390, 489, 81-D5 (1992)

The Expected High-Energy to Ultra–High-Energy Gamma-Ray Spectrum of the Crab Nebula. *O. C. De Jager & A. K. Harding.* 396, 161, 157-B6 (1992)

An Axisymmetric Magnetohydrodynamic Model for the Crab Pulsar Wind Bubble. *Mitchell C. Begelman & Zhi-yun Li.* 397, 187, 170-C11 (1992)

Formation of the Dark Bays in the Crab Optical Synchrotron Nebula: Is the Crab Pulsar Wind Bubble Interacting with Its Progenitor's Wind? *Zhi-Yun Li & Mitchell C. Begelman.* 400, 186, 211-C1 (1992)

Name: Geminga

SAS 2 Observation of Pulsed High-Energy Gamma Radiation from Geminga. *J. R. Mattox, D. L. Bertsch, C. E. Fichtel, R. C. Hartman, D. A. Kniffen, & D. J. Thompson.* 401, L23, 227-D1 (1992)

Name: Vela Pulsar

A Speckle Hologram of the Interstellar Plasma. *K. M. Desai, C. R. Gwinn, J. Reynolds, E. A. King, D. Jauncey, C. Flanagan, G. Nicolson, R. A. Preston, & D. L. Jones.* 393, L75, 127-E7 (1992)

Alphanumeric: GX 301−2

On the Power Spectra of the Wind-fed X-Ray Binary Pulsar GX 301−2. *Mauro Orlandini & G. E. Morfill.* 386, 703, 34-A9 (1992)

Alphanumeric: 4U 1538−52

The Polar Cap Structure of the X-Ray Pulsar 4U 1538−52. *T. Bulik, P. Mészáros, J. W. Woo, F. Nagase, & K. Makishima.* 395, 564, 149-G9 (1992)

EXOSAT Observations of the X-Ray Binary Pulsar 4U 1538−52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

Alphanumeric: 4U 2206+54

EXOSAT Observations of the Be/X-Ray Binary 4U 2206+54. *Priyamvada Saraswat & Krishna M. V. Apparao.* 401, 678, 231-A1 (1992)

Alphanumeric: PSR 0540−69

Rotational Parameters of PSR 0540−69 as Measured at Optical Wavelengths. *Christian Gouiffes, John P. Finley, & Hakki Ögelman.* 394, 581, 136-E8 (1992)

High-Resolution Optical Imaging of the Large Magellanic Cloud Plerion 0540−69. *P. A. Caraveo, G. F. Bignami, S. Mereghetti, & M. Mombelli.* 395, L103, 154-B11 (1992)

Alphanumeric: PSR 0655+64

PSR 0655+64: An Astrophysical Laboratory for Testing Relativistic Gravity Theories. *Itzhak Goldman.* 390, 494, 81-D11 (1992)

Alphanumeric: PSR 0656+14

ROSAT Observations of PSR 0656+14: A Pulsating and Cooling Neutron Star. *John P. Finley, Hakki Ögelman, & Ümit Kiziloğlu.* 394, L21, 133-C13 (1992)

Alphanumeric: PSR 0820+02

The White Dwarf Companion to PSR 0820+02. *D. Koester, G. Chanmugam, & D. Reimers.* 395, L107, 154-C7 (1992)

Alphanumeric: PSR 1259−63

PSR 1259−63: A Binary Radio Pulsar with a Be Star Companion. *Simon Johnston, R. N. Manchester, A. G. Lyne, M. Bailes, V. M. Kaspi, Qiao Guojun, & N. D'Amico.* 387, L37, 43-E1 (1992)

Alphanumeric: PSR 1744−24A

Pulsar PSR 1744−24A: Timing, Eclipses, and the Evolution of Neutron Star Binaries. *D. J. Nice & S. E. Thorsett.* 397, 249, 171-A12 (1992)

Alphanumeric: PSR 1829−10

Rocks around the Clock: Limits on Pulsar Planetary Systems. *S. E. Thorsett & J. A. Phillips.* 387, L69, 48-C6 (1992)

Alphanumeric: PSR 1913+16

Is Momentum Conserved? A Test in the Binary System PSR 1913+16. *Clifford M. Will.* 393, L59, 127-C7 (1992)

Alphanumeric: PSR 1957+20

The Continuum Eclipse of PSR 1957+20. *A. S. Fruchter & W. M. Goss.* 384, L47, 11-C9 (1992)

Orbital Angular Momentum Loss in PSR 1957+20. *Menashe Banit & Jacob Shaham.* 388, L19, 52-B11 (1992)

Spectroscopy of the Companion and Bow-Shock Nebula of PSR 1957+20. *Thomas L. Aldcroft, Roger W. Romani, & James M. Cordes.* 400, 638, 218-C13 (1992)

Alphanumeric: PSR J1341−6220

G308.8−0.1: An Unusual Supernova Remnant Containing a Short-Period Pulsar, PSR J1341−6220. *J. L. Caswell, M. J. Kesteven, R. T. Stewart, D. K. Milne, & R. F. Haynes.* 399, L151, 208-D1 (1992)

PSR J1341−6220: A Young Pulsar in a Supernova Remnant. *Victoria M. Kaspi, R. N. Manchester, Simon Johnston, A. G. Lyne, & N. D'Amico.* 399, L155, 208-D5 (1992)

Alphanumeric: X0115+634

The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

STARS: ROTATION

Line Shapes of Rotating Stars with Application to Alpha Lyrae. *G. H. Elste.* 384, 284, 4-D10 (1992)

Evolutionary Models of Halo Stars with Rotation. II. Effects of Metallicity on Lithium Depletion, and Possible Implications for the Primordial Lithium Abundance. *M. H. Pinsonneault, Constantine P. Deliyannis, & P. Demarque.* 78, 179, 4-B3 (1992)

Post-Newtonian Frequencies for the Pulsations of Rapidly Rotating Neutron Stars. *Curt Cutler & Lee Lindblom.* 385, 630, 21-A1 (1992)

Constraints on the Surface Magnetic Fields of Hot Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 386, 695, 33-G13 (1992)

Angular Momentum Transport in Magnetized Stellar Radiative Zones. I. Numerical Solutions to the Core Spin-up Model Problem. *P. Charbonneau & K. B. MacGregor.* 387, 639, 46-E11 (1992)

Carbon, Nitrogen, and Oxygen Abundances in Early B-Type Stars. *Douglas R. Gies & David L. Lambert.* 387, 673, 47-B1 (1992)

Light Curves of Rotating, Oscillating Neutron Stars. *T. E. Strohmayer.* 388, 138, 50-F9 (1992)

Rotational Properties of Strange Stars. *M. Colpi & J. C. Miller.* 388, 513, 56-F1 (1992)

On the Interior Structure of Contact Binaries and the Light-Curve Paradox. *Jean-Louis Tassoul.* 389, 375, 64-E9 (1992)

Rotating Stars: The Angular Momentum Constraints. *Fernando de Felice & Leonardo Di G. Sigalotti.* 389, 386, 64-F7 (1992)
On the Pulsations of Relativistic Accretion Disks and Rotating Stars: The Cowling Approximation. *James R. Ipser & Lee Lindblom.* 389, 392, 64-G1 (1992)
Remarks on Triaxiality, Spin-up, and Magnetic Field Obliquity of Some Millisecond Pulsars. *W. Y. Chau, K. S. Cheng, & J. L. Zhang.* 390, 486, 81-D1 (1992)
Application of the Improved Hartle Method for the Construction of General Relativistic Rotating Neutron Star Models. *F. Weber & N. K. Glendenning.* 390, 541, 82-B1 (1992)
The Rotation of M Dwarfs. *Geoffrey W. Marcy & Grace H. Chen.* 390, 550, 82-B11 (1992)
The Ring around SN 1987A and Rotation of the Progenitor. *Y. Eriguchi, H. Yamaoka, K. Nomoto, & M. Hashimoto.* 392, 243, 104-A1 (1992)
Evidence of Differential Surface Rotation in the Solar-Type Star HD 114710. *Robert A. Donahue & Sallie L. Baliunas.* 393, L63, 127-D1 (1992)
Rotational Parameters of PSR 0540−69 as Measured at Optical Wavelengths. *Christian Gouiffes, John P. Finley, & Hakki Ögelman.* 394, 581, 136-E8 (1992)
Effects of Differential Rotation on Stellar Oscillations: A Second-Order Theory. *W. A. Dziembowski & Philip R. Goode.* 394, 670, 137-G5 (1992)
A Comparative Study of Synchronization and Circularization in Close Binaries. *Jean-Louis Tassoul & Monique Tassoul.* 395, 259, 143-D1 (1992)
On the Efficiency of Ekman Pumping for Synchronization in Close Binaries. *Monique Tassoul & Jean-Louis Tassoul.* 395, 604, 150-E5 (1992)
Field Theoretical Model for Nuclear and Neutron Matter. V. Slowly Rotating Warm Cores in Neutron Stars. *José V. Romero, J. Díaz Alonso, José M^a. Ibáñez, Juan A. Miralles, & Armando Pérez.* 395, 612, 150-F5 (1992)
Effects of Evolving Rotating Equilibrium Configurations on the Cooling and Spin-down of Pulsars. *K. S. Cheng, W. Y. Chau, J. L. Zhang, & H. F. Chau.* 396, 135, 156-G3 (1992)
γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)
Solar Spin-down with Internal Magnetic Fields. *P. Charbonneau & K. B. MacGregor.* 397, L63, 174-A3 (1992)
Spin-up of a Rapidly Rotating Star by Angular Momentum Loss: Effects of General Relativity. *Gregory B. Cook, Stuart L. Shapiro, & Saul A. Teukolsky.* 398, 203, 184-D1 (1992)
Rotation Periods of T Tauri Stars in the Orion Nebula Cluster: A Bimodal Frequency Distribution. *Joanne M. Attridge & William Herbst.* 398, L61, 188-B1 (1992)
Oscillations and Collapse of Compressible Homogeneous Rotating Spheroids with Electron Degeneracy. *T. T. Chia & S. Y. Pung.* 398, 574, 191-C7 (1992)
Polarization Cancellation in the Two-Component Winds from Wolf-Rayet Stars. *M. Taylor & J. P. Cassinelli.* 401, 311, 224-G5 (1992)
General Relativistic Structure of Star-Toroid Systems. *Shogo Nishida, Yoshiharu Eriguchi, & Antonio Lanza.* 401, 618, 230-C1 (1992)

STARS: STATISTICS

Local Distribution of Old Neutron Stars. *Zsolt Frei, Xiaolan Huang, & Bohdan Paczyński.* 384, 105, 2-C10 (1992)
Multiplicity among the Young Stars in Taurus. *M. Simon, W. P. Chen, R. R. Howell, J. A. Benson, & D. Slowik.* 384, 212, 3-E8 (1992)
High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)
Fokker-Planck Models and Globular Cluster Evolution: The Problem of M71. *G. A. Drukier, G. G. Fahlman, & H. B. Richer.* 386, 106, 25-D7 (1992)
The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)
Constraints on the Age and Evolution of the Galaxy from the White Dwarf Luminosity Function. *M. A. Wood.* 386, 539, 32-B3 (1992)
The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)
On the Galactic Disk and Halo Models of Gamma-Ray Bursts. *Shude Mao & Bohdan Paczyński.* 389, L13, 66-C1 (1992)
Type I Supernovae and Accretion-induced Collapses from Cataclysmic Variables? *Mario Livio & James W. Truran.* 389, 695, 70-A10 (1992)
Supernova Rates and the Reddening of Wolf-Rayet Stars. *Sidney van den Bergh.* 390, 133, 75-F1 (1992)
The Spatial Distribution of Gamma-Ray Bursts from *Pioneer Venus Orbiter*. *K. W. Chuang, R. S. White, R. W. Klebesadel, & J. G. Laros.* 391, 242, 89-A4 (1992)
Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)
The Nonexponential Evolution of Pulsar Magnetic Fields. *Shigeto Wakatsuki, Atsushi Hikita, Naohiro Sato, & Naoki Itoh.* 392, 628, 110-A10 (1992)
Multiplicity-corrected Mass Function of Main-Sequence Stars in the Solar Neighborhood. *Sarbani Basu & N. C. Rana.* 393, 373, 118-F10 (1992)
Spectroscopic Binaries in the α Persei Cluster. *Nidia Morrell & Helmut A. Abt.* 393, 666, 124-B1 (1992)
Statistics of Gamma-Ray Bursts: Homogeneous Spherical Models. *Ira Wasserman.* 394, 565, 136-D2 (1992)
Multiplicity among M Dwarfs. *Debra A. Fischer & Geoffrey W. Marcy.* 396, 178, 157-C13 (1992)

STARS: SUBDWARFS

Sodium Abundance Variations in Metal-poor Dwarfs. *William J. Spiesman.* 397, L103, 181-D1 (1992)

STARS: SUPERGIANTS

The Bow Shock Structure of IRS 7: Wind-Wind Collision near the Galactic Center. *Farhad Yusef-Zadeh & Fulvio Melia.* 385, L41, 23-B13 (1992)
Carbon, Nitrogen, and Oxygen Abundances in Early B-Type Stars. *Douglas R. Gies & David L. Lambert.* 387, 673, 47-B1 (1992)
The Chemical Composition of Magellanic Cloud Cepheids and Nonvariable Supergiants. *R. Earle Luck & David L. Lambert.* 79, 303, 18-E3 (1992)
Discovery of Bipolar OH Maser Emission from the High-Latitude Supergiant Star HD 101584. *P. te Lintel Hekkert, J. M. Chapman, & A. A. Zijlstra.* 390, L23, 78-D9 (1992)
An Absolute Calibration of Type Ia Supernovae and the Value of H_0. *Michael J. Pierce, Michael E. Ressler, & Mark S. Shure.* 390, L45, 84-D1 (1992)
Hα Observations of Early-Type Stars. *S. Scuderi, G. Bonanno, R. Di Benedetto, D. Spadaro, & N. Panagia.* 392, 201, 103-D7 (1992)
The Nature of Dust around the Post–Asymptotic Giant Branch Objects HD 161796 and HD 179821. *K. Justtanont, M. J. Barlow, C. J. Skinner, & A. G. G. M. Tielens.* 392, L75, 113-D8 (1992)
The Discovery of an Extremely Low Amplitude Cepheid? *R. Paul Butler.* 394, L25, 133-D5 (1992)
OH/IR Stars in the Magellanic Clouds. *P. R. Wood, J. B. Whiteoak, S. M. G. Hughes, M. S. Bessell, F. F. Gardner, & A. R. Hyland.* 397, 552, 177-G5 (1992)
Polarization and the Envelopes of B[e] Supergiants in the Magellanic Clouds. *A. M. Magalhães.* 398, 286, 185-C11 (1992)
The Young Large Magellanic Cloud Cluster NGC 2214 with a Single Supergiant Branch. *Myung Gyoon Lee.* 399, L133, 208-B1 (1992)
Absorption-Line Profiles in a Companion Spectrum of a Mass-losing Cool Supergiant. *Liliya L. Rodrigues & Erika Böhm-Vitense.* 401, 695, 231-B10 (1992)

STARS: SUPERNOVAE: GENERAL

High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)
The Energy Sources Powering the Late-Time Bolometric Evolution of SN 1987A. *Nicholas B. Suntzeff, M. M. Phillips, J. H. Elias, D. L. DePoy, & A. R. Walker.* 384, L33, 11-B6 (1992)
The Frequencies of Supernovae in Binaries. *Alexander V. Tutukov, Lev R. Yungelson, & Icko Iben, Jr.* 386, 197, 26-E9 (1992)

Postexplosion Hydrodynamics of SN 1987A. *Marc Herant & Willy Benz.* 387, 294, 40-E9 (1992)

HEAO 3 Limits on the ^{44}Ti Yield in Galactic Supernovae. *W. A. Mahoney, J. C. Ling, W. A. Wheaton, & J. C. Higdon.* 387, 314, 40-G5 (1992)

Type II-L Supernovae—Standard Bombs. *C. Martin Gaskell.* 389, L17, 66-C6 (1992)

G203.2−12.3: A New Optical Supernova Remnant in Orion. *P. Frank Winkler & Bo Reipurth.* 389, L25, 66-D1 (1992)

Can a Closure Mass Neutrino Help Solve the Supernova Shock Reheating Problem? *George M. Fuller, R. Mayle, Bradley S. Meyer, & James R. Wilson.* 389, 517, 67-G10 (1992)

Type I Supernovae and Accretion-induced Collapses from Cataclysmic Variables? *Mario Livio & James W. Truran.* 389, 695, 70-A10 (1992)

The Luminosity of Supernovae of Type Ia. I. Apparent Magnitudes at Maximum Light. *Sidney van den Bergh & John Pazder.* 390, 34, 74-D13 (1992)

Supernova Rates and the Reddening of Wolf-Rayet Stars. *Sidney van den Bergh.* 390, 133, 75-F1 (1992)

Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

Detection of an Unresolved Nuclear Radio Source in M31. *Patrick C. Crane, John R. Dickel, & John J. Cowan.* 390, L9, 78-B7 (1992)

Gamma-Ray Deposition and Nonthermal Excitation in Supernovae. *Cecilia Kozma & Claes Fransson.* 390, 602, 82-G1 (1992)

An Absolute Calibration of Type Ia Supernovae and the Value of H_0. *Michael J. Pierce, Michael E. Ressler, & Mark S. Shure.* 390, L45, 84-D1 (1992)

Effect of the Explosion of Supernovae and Superbubbles on the Galactic Dynamo. *Katia Ferrière.* 391, 188, 88-C13 (1992)

Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)

Evolution of Heavy-Element Abundances as a Constraint on Sites for Neutron-Capture Nucleosynthesis. *G. J. Mathews, G. Bazan, & J. J. Cowan.* 391, 719, 97-A1 (1992)

The Hubble Constant from Nickel Radioactivity in Type Ia Supernovae. *David Branch.* 392, 35, 101-D9 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

Early Expansion and Luminosity Evolution of Supernovae. *Roger A. Chevalier.* 394, 599, 136-G5 (1992)

Interstellar SiC with Unusual Isotopic Compositions: Grains from a Supernova? *Sachiko Amari, Peter Hoppe, Ernst Zinner, & Roy S. Lewis.* 394, L43, 139-C1 (1992)

The α-Process and the r-Process. *S. E. Woosley & Robert D. Hoffman.* 395, 202, 142-F7 (1992)

Expanding Photospheres of Type II Supernovae and the Extragalactic Distance Scale. *Brian P. Schmidt, Robert P. Kirshner, & Ronald G. Eastman.* 395, 366, 146-G7 (1992)

Diffusive Acceleration of Electrons in SN 1987A. *Lewis Ball & J. G. Kirk.* 396, L39, 160-G1 (1992)

Are Symbiotic Stars the Precursors of Type Ia Supernovae? *Ulisse Munari & Alvio Renzini.* 397, L87, 181-B1 (1992)

Radiative Equilibrium in Rapidly Expanding Shells. *P. H. Hauschildt.* 398, 224, 184-E9 (1992)

The Quasi-static Evolution of ONeMg Cores: Explosive Ignition Densities and the Collapse/Explosion Alternative. *Ramon Canal, Jordi Isern, & Javier Labay.* 398, L49, 187-G7 (1992)

r-Process Nucleosynthesis in the High-Entropy Supernova Bubble. *B. S. Meyer, G. J. Mathews, W. M. Howard, S. E. Woosley, & R. D. Hoffman.* 399, 656, 206-B1 (1992)

Explosion of a Supernova with a Red Giant Companion. *E. Livne, Y. Tuchman, & J. C. Wheeler.* 399, 665, 206-B11 (1992)

Nebular Spectra of Type Ia Supernovae as Probes for Extragalactic Distances, Reddening, and Nucleosynthesis. *P. Ruiz-Lapuente & L. B. Lucy.* 400, 127, 210-E1 (1992)

A Distance-independent Calibration of the Luminosity of Type Ia Supernovae and the Hubble Constant. *Bruno Leibundgut & Philip A. Pinto.* 401, 49, 221-F1 (1992)

Pycnonuclear Reaction Rates for Binary Ionic Mixtures. *S. Ichimaru, S. Ogata, & H. M. Van Horn.* 401, L35, 227-E7 (1992)

Deposition of Mass, Momentum, and Energy by Massive Stars into the Interstellar Medium. *Claus Leitherer, Carmelle Robert, & Laurent Drissen.* 401, 596, 230-A6 (1992)

Strange Quark Contributions to the Nucleon and Neutrino Nucleosynthesis. *E. Kolbe, K. Langanke, S. Krewald, & F. K. Thielemann.* 401, L89, 233-C1 (1992)

STARS: SUPERNOVAE: INDIVIDUAL

Alphanumeric: SN 1937C

An Absolute Calibration of Type Ia Supernovae and the Value of H_0. *Michael J. Pierce, Michael E. Ressler, & Mark S. Shure.* 390, L45, 84-D1 (1992)

The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

Alphanumeric: SN 1957D

A Rapid Decline in the Optical Emission from SN 1957D in M83. *Knox S. Long, P. Frank Winkler, & William P. Blair.* 395, 632, 151-A5 (1992)

Alphanumeric: SN 1981K

The 20 and 6 Centimeter Radio Light Curves for SN 1981K: A Type II Radio Supernova. *Schuyler D. Van Dyk, Kurt W. Weiler, Richard A. Sramek, & Nino Panagia.* 396, 195, 157-E4 (1992)

Alphanumeric: SN 1980K

Full Evolution of the 6 and 20 Centimeter Radio Emission from SN 1980K. *Kurt W. Weiler, Schuyler D. Van Dyk, Nino Panagia, & Richard A. Sramek.* 398, 248, 184-G9 (1992)

Alphanumeric: SN 1979C

Evidence for Periodic Modulation of Presupernova Mass Loss from the Progenitor of SN 1979C. *Kurt W. Weiler, Schuyler D. Van Dyk, James E. Pringle, & Nino Panagia.* 399, 672, 206-C5 (1992)

Alphanumeric: SN 1985L

Early-Time Spectra of Type Ic Supernovae: Further Evidence for the Presence of Hydrogen. *Alexei V. Filippenko.* 384, L37, 11-B11 (1992)

Alphanumeric: SN 1986G

Nebular Spectra of Type Ia Supernovae as Probes for Extragalactic Distances, Reddening, and Nucleosynthesis. *P. Ruiz-Lapuente & L. B. Lucy.* 400, 127, 210-E1 (1992)

Alphanumeric: SN 1986J

X-Ray Emission from SN 1986J in NGC 891. *Joel N. Bregman & Rachel A. Pildis.* 398, L107, 194-E7 (1992)

Alphanumeric: SN 1987A

Hydrogen Recombination at High Optical Depth and the Spectrum of SN 1987A. *Yueming Xu, Richard McCray, Ernesto Oliva, & Sofia Randich.* 386, 181, 26-D3 (1992)

Compton Telescope Observations of Gamma Rays from SN 1987A. *Farid Ait-Ouamer, Alan D. Kerrick, Terrence J. O'Neill, O. Tumay Tumer, Allen D. Zych, & R. Stephen White.* 386, 715, 34-B11 (1992)

The [O I] $\lambda\lambda$6300,6364 Doublet of SN 1987A. *Hongwei Li & Richard McCray.* 387, 309, 40-F12 (1992)

Line Fluorescence from the Ring around SN 1987A. *Eli Dwek & James E. Felten.* 387, 551, 45-E1 (1992)

Dust and Gas Contributions to the Energy Output of SN 1987A on Day 1153. *E. Dwek, S. H. Moseley, W. Glaccum, J. R. Graham, R. F. Loewenstein, R. F. Silverberg, & R. K. Smith.* 389, L21, 66-C11 (1992)

Mixing in Ejecta of Supernovae. I. General Properties of Two-dimensional Rayleigh-Taylor Instabilities and Mixing Width in Ejecta of Supernovae. *Izumi Hachisu, Takuya Matsuda, Ken'ichi Nomoto, & Toshikazu Shigeyama.* 390, 230, 76-G7 (1992)

Presupernova Evolution in Massive Interacting Binaries. *Ph. Podsiadlowski, P. C. Joss, & J. J. L. Hsu.* 391, 246, 89-A10 (1992)

The Ring around SN 1987A and Rotation of the Progenitor. *Y. Eriguchi, H. Yamaoka, K. Nomoto, & M. Hashimoto.* 392, 243, 104-A1 (1992)

Shock Breakout in SN 1987A. *Lisa Ensman & Adam Burrows.* 393, 742, 125-A10 (1992)

Early Expansion and Luminosity Evolution of Supernovae. *Roger A. Chevalier.* 394, 599, 136-G5 (1992)

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

SN 1987A: The Impact of Greater than MeV Gamma-Ray Luminosity Limits on Theories of Particle Acceleration. *R. K. Sood, L. Waldron, G. K. Rochester, T. J. Sumner, G. Frye, T. Jenkins, R. Staubert, E. Kendziorra, P. Ubertini, & A. Bazzano.* 395, 637, 151-B3 (1992)

Postcollapse Hydrodynamics of SN 1987A: Two-dimensional Simulations of the Early Evolution. *Marc Herant, Willy Benz, & Stirling Colgate.* 395, 642, 151-B13 (1992)

Diffusive Acceleration of Electrons in SN 1987A. *Lewis Ball & J. G. Kirk.* 396, L39, 160-G1 (1992)

Carbon Monoxide in SN 1987A. *Weihong Liu, A. Dalgarno, & S. Lepp.* 396, 679, 165-G1 (1992)

A Limit on the ^{57}Co Gamma-Ray Flux from SN 1987A. *S. Gunji, T. Kamae, S. Miyazaki, Y. Sekimoto, T. Takahashi, T. Tamura, M. Tanaka, N. Yamaoka, T. Yamagami, M. Nomachi, H. Murakami, J. Braga, & J. A. Neri.* 397, L83, 181-A8 (1992)

Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A. *J. D. Kurfess, W. N. Johnson, R. L. Kinzer, R. A. Kroeger, M. S. Strickman, J. E. Grove, M. D. Leising, D. D. Clayton, D. A. Grabelsky, W. R. Purcell, M. P. Ulmer, R. A. Cameron, & G. V. Jung.* 399, L137, 208-B7 (1992)

The ^{57} Co Abundance in SN 1987A. *Donald D. Clayton, Mark D. Leising, Lih-Sin The, W. N. Johnson, & J. D. Kurfess.* 399, L141, 208-C1 (1992)

Alphanumeric: SN 1987M

Early-Time Spectra of Type Ic Supernovae: Further Evidence for the Presence of Hydrogen. *Alexei V. Filippenko.* 384, L37, 11-B11 (1992)

Alphanumeric: SN 1990N

Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

Alphanumeric: SN 1991T

The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf? *Alexei V. Filippenko, Michael W. Richmond, Thomas Matheson, Joseph C. Shields, E. Margaret Burbidge, Ross D. Cohen, Mark Dickinson, Matthew A. Malkan, Brant Nelson, Jochen Pietz, David Schlegel, Patrick Schmeer, Hyron Spinrad, Charles C. Steidel, Hien D. Tran, & William Wren.* 384, L15, 6-C1 (1992)

Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

STARS: VARIABLES: CEPHEIDS

A Magnitude-limited Survey of Cepheid Companions in the Ultraviolet. *Nancy Remage Evans.* 384, 220, 3-F4 (1992)

On the Mass Discrepancy of the Cepheid Stars. *C. Chiosi, P. R. Wood, G. Bertelli, A. Bressan, & M. Mateo.* 385, 205, 14-E1 (1992)

The Luminosity of the Double-Mode Cepheid Y Carinae. *Nancy Remage Evans.* 385, 680, 21-E6 (1992)

Toward a Resolution of the Bump and Beat Cepheid Mass Discrepancies. *Paweł Moskalik, J. Robert Buchler, & Ariel Marom.* 385, 685, 21-E13 (1992)

Luminosity–Line Width Relations and the Extragalactic Distance Scale. I. Absolute Calibration. *Michael J. Pierce & R. Brent Tully.* 387, 47, 37-E8 (1992)

On the Instability Strip of the Cepheid Stars. *C. Chiosi, P. Wood, G. Bertelli, & A. Bressan.* 387, 320, 41-A1 (1992)

New Calibrators for the Cepheid Period-Luminosity Relation. *Nancy Remage Evans.* 389, 657, 69-E8 (1992)

The Chemical Composition of Magellanic Cloud Cepheids and Nonvariable Supergiants. *R. Earle Luck & David L. Lambert.* 79, 303, 18-E3 (1992)

Pulsational Study of BL Herculis Models. I. Radial Velocities. *J. Robert Buchler & Paweł Moskalik.* 391, 736, 97-B6 (1992)

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

The Discovery of an Extremely Low Amplitude Cepheid? *R. Paul Butler.* 394, L25, 133-D5 (1992)

New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

The Cepheid Distance to IC 4182: Calibration of M_V(max) for SN Ia 1937C and the Value of H_0. *Allan Sandage, A. Saha, G. A. Tammann, Nino Panagia, & D. Macchetto.* 401, L7, 227-B1 (1992)

Absorption-Line Profiles in a Companion Spectrum of a Mass-losing Cool Supergiant. *Liliya L. Rodrigues & Erika Böhm-Vitense.* 401, 695, 231-B10 (1992)

STARS: VARIABLES: δ SCUTI

An Opacity Mechanism for the Pulsations of OB Stars. *Arthur N. Cox, Siobahn M. Morgan, Forrest J. Rogers, & Carlos A. Iglesias.* 393, 272, 117-E3 (1992)

τ Pegasi: A Fourier Representation of Line-Profile Variations. *E. J. Kennelly, G. A. H. Walker, & William J. Merryfield.* 400, L71, 220-E8 (1992)

STARS: VARIABLES: OTHER

Miscellaneous

Maximum Rates of Period Change for DA White Dwarf Models with Carbon and Oxygen Cores. *P. A. Bradley, D. E. Winget, & M. A. Wood.* 391, L33, 92-C1 (1992)

Pulsational Study of BL Herculis Models. I. Radial Velocities. *J. Robert Buchler & Paweł Moskalik.* 391, 736, 97-B6 (1992)

Constraints on the Galactic Bulge Using *IRAS* Variable Point Sources. *Martin D. Weinberg.* 392, L67, 113-C10 (1992)

The Structure of Horizontal-Branch Models. I. The Zero-Age Horizontal Branch. *Ben Dorman.* 80, 701, 33-B5 (1992)

Long-Term Variability in Low-Mass X-Ray Binaries: A Study Using Data from *Vela 5B*. *Alan P. Smale & James C. Lochner.* 395, 582, 150-B13 (1992)

Discovering Planetary Systems through Gravitational Microlenses. *Andrew Gould & Abraham Loeb.* 396, 104, 156-D6 (1992)

X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

S-154 in the Large Magellanic Cloud: Spectral Evolution from a Luminous Fe II Variable to a Symbiotic-like Star. *R. A. Remillard, E. Rosenthal, I. R. Tuohy, D. A. Schwartz, D. A. H. Buckley, & R. J. V. Brissenden.* 396, 668, 165-F1 (1992)

γ Cephei: Rotation or Planetary Companion? *Gordon A. H. Walker, David A. Bohlender, Andrew R. Walker, Alan W. Irwin, Stephenson L. S. Yang, & Ana Larson.* 396, L91, 167-D1 (1992)

Variation in the Near-Infrared Surface Brightness Distribution of the Bipolar Nebula OH 231.8+4.2. *Joel H. Kastner, David A. Weintraub, B. Zuckerman, E. E. Becklin, I. McLean, & I. Gatley.* 398, 552, 191-A8 (1992)

M31: A Unique Laboratory for Gravitational Microlensing. *Arlin P. S. Crotts.* 399, L43, 200-D11 (1992)

Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)

Oxygen-rich Semiregular and Irregular Variables. *M. Jura & S. G. Kleinmann.* 83, 329, 62-D5 (1992)

R Coronae Borealis

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

Long-Period Variables

Short- and Intermediate-Period Oxygen-rich Miras. *M. Jura & S. G. Kleinmann.* 79, 105, 14-D3 (1992)

RR Lyrae

A VLA 3.6 Centimeter Survey of N-Type Carbon Stars. *Donald G. Luttermoser & Alexander Brown.* 384, 634, 10-A7 (1992)

The Continuum Eclipse of PSR 1957+20. *A. S. Fruchter & W. M. Goss.* 384, L47, 11-C9 (1992)

Radial Velocities of Carbon Stars: CO versus Optical Measurements. *Cecilia Barnbaum.* 385, 694, 21-F10 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VII. The Field Stars SW Andromedae and DX Delphini and a Comparison of Recent Baade-Wesselink Analyses. *Rodney V. Jones, Bruce W. Carney, Jesper Storm, & David W. Latham.* 386, 646, 33-C14 (1992)

The Baade-Wesselink Method and the Distances to RR Lyrae Stars. VIII. Comparisons with Other Techniques and Implications for Globular Cluster Distances and Ages. *Bruce W. Carney, Jesper Storm, & Rodney V. Jones.* 386, 663, 33-E5 (1992)

Evolution versus Pulsation along the Horizontal Branch of M15. *Norman R. Simon.* 387, 162, 39-A3 (1992)

Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339–4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)

1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras. *Alan J. Collison & John D. Fix.* 390, 191, 76-C13 (1992)

Location of the Dust Formation Region for Mira Variables. *P. F. Bowers.* 390, L27, 78-E1 (1992)

The Absolute Magnitudes of LMC RR Lyrae Variables and the Ages of Galactic Globular Clusters. *Alistair R. Walker.* 390, L81, 85-A7 (1992)

The Discovery of a New DAV Star Using *IUE* Temperature Determination. *A. Kanaan, S. O. Kepler, O. Giovannini, & M. Diaz.* 390, L89, 85-B7 (1992)

Ages of Globular Clusters and Helium Diffusion. *Brian Chaboyer, Ata Sarajedini, & Pierre Demarque.* 394, 515, 135-F12 (1992)

An RR Lyrae Period Shift in Terms of the Fourier Parameter ϕ_{31}. *Christine M. Clement, Michael Jankulak, & Norman R. Simon.* 395, 192, 142-E9 (1992)

On the Absolute Magnitude of RR Lyrae Stars: UU Ceti, RV Phoenicis, and W Tucanae. *C. Cacciari, G. Clementini, & J. A. Fernley.* 396, 219, 157-G5 (1992)

Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. I. The Mathematical Description. *Michael Gehmeyr.* 399, 265, 198-E1 (1992)

On Nonlinear Radial Oscillations in Convective RR Lyrae Stars. II. Comparison of a Radiative and a Convective Model. *Michael Gehmeyr.* 399, 272, 198-E11 (1992)

The Baade-Wesselink Method Applied to RR Lyrae Variables in the Globular Clusters M5 and M92. *J. G. Cohen.* 400, 528, 216-G11 (1992)

The Galactic Globular Cluster System: Empirical Relationship between Light-to-Mass Ratio and Metallicity. *Filippina Caputo & Renato De Santis.* 401, 260, 224-C1 (1992)

STARS: WHITE DWARFS

On the Certification of AM Canum Venaticorum as a Cataclysmic Variable. *Joseph Patterson, Emily Sterner, Jules P. Halpern, & John C. Raymond.* 384, 234, 3-G6 (1992)

The Peculiar Type Ia SN 1991T: Detonation of a White Dwarf? *Alexei V. Filippenko, Michael W. Richmond, Thomas Matheson, Joseph C. Shields, E. Margaret Burbidge, Ross D. Cohen, Mark Dickinson, Matthew A. Malkan, Brant Nelson, Jochen Pietz, David Schlegel, Patrick Schmeer, Hyron Spinrad, Charles C. Steidel, Hien D. Tran, & William Wren.* 384, L15, 6-C1 (1992)

Early-Time Spectra of Type Ic Supernovae: Further Evidence for the Presence of Hydrogen. *Alexei V. Filippenko.* 384, L37, 11-B11 (1992)

Companions to White Dwarfs: Very Low Mass Stars and the Brown Dwarf Candidate GD 165B. *B. Zuckerman & E. E. Becklin.* 386, 260, 27-D7 (1992)

Possible Models for the Type Ia Supernova 1990N. *Toshikazu Shigeyama, Ken'ichi Nomoto, Hitoshi Yamaoka, & Friedrich-Karl Thielemann.* 386, L13, 29-C1 (1992)

Constraints on the Age and Evolution of the Galaxy from the White Dwarf Luminosity Function. *M. A. Wood.* 386, 539, 32-B3 (1992)

Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

On the Influence of the Convective Efficiency on the Determination of the Atmospheric Parameters of DA White Dwarfs. *P. Bergeron, F. Wesemael, & G. Fontaine.* 387, 288, 40-E1 (1992)

Modeling the Iron-dominated Spectra of the Type Ia Supernova SN 1991T at Premaximum. *P. Ruiz-Lapuente, E. Cappellaro, M. Turatto, C. Gouiffes, I. J. Danziger, M. Della Valle, & L. B. Lucy.* 387, L33, 43-D8 (1992)

Effects of Fe/C Phase Separation on the Ages of White Dwarfs. *Z. W. Xu & H. M. Van Horn.* 387, 662, 47-A1 (1992)

Diffusion and Mixing in Accreting White Dwarfs. *Icko Iben, Jr., Masayuki Y. Fujimoto, & Jim MacDonald.* 388, 521, 56-F11 (1992)

Type I Supernovae and Accretion-induced Collapses from Cataclysmic Variables? *Mario Livio & James W. Truran.* 389, 695, 70-A10 (1992)

H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

The Constitution of the Atmospheric Layers and the Extreme Ultraviolet Spectrum of Hot Hydrogen-rich White Dwarfs. *Stéphane Vennes.* 390, 590, 82-F1 (1992)

The Discovery of a New DAV Star Using *IUE* Temperature Determination. *A. Kanaan, S. O. Kepler, O. Giovannini, & M. Diaz.* 390, L89, 85-B7 (1992)

On the Thermal Conductivity due to Collisions between Relativistic Degenerate Electrons. *F. X. Timmes.* 390, L107, 85-D9 (1992)

The Collapse of White Dwarfs to Neutron Stars. *S. E. Woosley & E. Baron.* 391, 228, 88-G1 (1992)

The Identification of Highly Ionized Metal Species in the Hot DA1 White Dwarf G191-B2B with the *Hubble Space Telescope* Faint Object Spectrograph. *Edward M. Sion, Ralph C. Bohlin, Richard W. Tweedy, & Gerard P. Vauclair.* 391, L29, 92-B11 (1992)

Maximum Rates of Period Change for DA White Dwarf Models with Carbon and Oxygen Cores. *P. A. Bradley, D. E. Winget, & M. A. Wood.* 391, L33, 92-C1 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. II. Mode Trapping in Compositionally Stratified Models. *P. Brassard, G. Fontaine, F. Wesemael, & C. J. Hansen.* 80, 369, 27-E3 (1992)

Whole Earth Telescope Observations of V471 Tauri: The Nature of the White Dwarf Variations. *J. C. Clemens, R. E. Nather, D. E. Winget, E. L. Robinson, M. A. Wood, C. F. Claver, J. Provencal, S. J. Kleinman, P. A. Bradley, M. L. Frueh, A. D. Grauer, B. P. Hine, G. Fontaine, N. Achilleos, D. T. Wickramasinghe, T. M. K. Marar, S. Seetha, B. N. Ashoka, D. O'Donoghue, B. Warner, D. W. Kurtz, P. Martinez, G. Vauclair, M. Chevreton, M. A. Barstow, A. Kanaan, S. O. Kepler, T. Augusteijn, J. van Paradijs, & C. J. Hansen.* 391, 773, 97-E8 (1992)

The Hubble Constant from Nickel Radioactivity in Type Ia Supernovae. *David Branch.* 392, 35, 101-D9 (1992)

Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission. *Arthur F. Davidsen, Knox S. Long, Samuel T. Durrance, William P. Blair, Charles W. Bowers, Steven J.*

Conard, Paul D. Feldman, Henry C. Ferguson, Glen H. Fountain, Randy A. Kimble, Gerard A. Kriss, H. Warren Moos, & Kenneth A. Potocki. 392, 264, 104-C1 (1992)

Axion Cooling of White Dwarfs. *J. Isern, M. Hernanz, & E. Garcia-Berro.* 392, L23, 106-D1 (1992)

Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. III. A Finite-Element Code for Solving Nonradial Pulsation Equations. *P. Brassard, C. Pelletier, G. Fontaine, & F. Wesemael.* 80, 725, 33-D11 (1992)

The Nature of the Recurrent Nova T Coronae Borealis: Ultraviolet Evidence for a White Dwarf Accretor. *Pier Luigi Selvelli, Angelo Cassatella, & Roberto Gilmozzi.* 393, 289, 117-F12 (1992)

Late Detonation Models for the Type Ia Supernovae SN 1991T and SN 1990N. *Hitoshi Yamaoka, Ken'ichi Nomoto, Toshikazu Shigeyama, & Friedrich-Karl Thielemann.* 393, L55, 127-C1 (1992)

A Spectroscopic Determination of the Mass Distribution of DA White Dwarfs. *P. Bergeron, Rex A. Saffer, & James Liebert.* 394, 228, 130-G5 (1992)

The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

Models of White Dwarfs Distorted by Differential Rotation and Magnetic Fields. *V. S. Geroyannis & A. A. Hadjopoulos.* 81, 377, 40-B13 (1992)

Two Ultramassive White Dwarfs Found among Candidates for Magnetic Fields. *Gary D. Schmidt, P. Bergeron, James Liebert, & Rex A. Saffer.* 394, 603, 136-G11 (1992)

Prevention of Accretion onto White Dwarfs by Stellar Winds. *James MacDonald.* 394, 619, 137-B? (1992)

The Binary System L151−81A/B: A Potential Test of Accretion Theory. *M. A. Wood & T. D. Oswalt.* 394, L53, 139-D1 (1992)

The White Dwarf Companion to PSR 0820+02. *D. Koester, G. Chanmugam, & D. Reimers.* 395, L107, 154-C7 (1992)

Adiabatic Properties of Pulsating DA White Dwarfs. IV. An Extensive Survey of the Period Structure of Evolutionary Models. *P. Brassard, G. Fontaine, F. Wesemael, & M. Tassoul.* 81, 747, 45-D3 (1992)

Spectroscopy of the Recurrent Nova U Scorpii. *Helen M. Johnston & Shrinivas R. Kulkarni.* 396, 267, 158-D4 (1992)

Exploring the Peculiar Magnetic Field of Feige 7. *N. Achilleos, D. T. Wickramasinghe, James Liebert, Rex A. Saffer, & A. D. Grauer.* 396, 273, 158-D13 (1992)

The Radial Velocity of the White Dwarf Giclas 29-38. *C. Barnbaum & B. Zuckerman.* 396, L31, 160-F1 (1992)

The Conductive Propagation of Nuclear Flames. I. Degenerate C + O and O + Ne + Mg White Dwarfs. *F. X. Timmes & S. E. Woosley.* 396, 649, 165-D9 (1992)

Hubble Space Telescope FOS Observations of KPD 0005+5106: A Subluminous WN-WC Descendant with Ongoing Mass Outflow? *Edward M. Sion & Ronald A. Downes.* 396, L79, 167-B7 (1992)

Properties of Quasi-periodic Oscillations in Accreting Magnetic White Dwarfs. *Kinwah Wu, G. Chanmugam, & G. Shaviv.* 397, 232, 170-G6 (1992)

Extreme Ultraviolet Spectroscopy of G191-B2B: Direct Observation of Ionization Edges. *Erik Wilkinson, James C. Green, & Webster Cash.* 397, L51, 173-F13 (1992)

The Quasi-static Evolution of ONeMg Cores: Explosive Ignition Densities and the Collapse/Explosion Alternative. *Ramon Canal, Jordi Isern, & Javier Labay.* 398, L49, 187-G7 (1992)

Discovery of a Sub-Megagauss Magnetic White Dwarf through Spectropolarimetry. *Gary D. Schmidt, H. S. Stockman, & Paul S. Smith.* 398, L57, 188-A7 (1992)

Oscillations and Collapse of Compressible Homogeneous Rotating Spheroids with Electron Degeneracy. *T. T. Chia & S. Y. Pung.* 398, 574, 191-C7 (1992)

Noise-driven Radiative Shocks. II. Further Implications for the Quasi-periodic Oscillations of the AM Herculis Objects. *Kent S. Wood, James N. Imamura, & Michael T. Wolff.* 398, 593, 191-E1 (1992)

A Study of Metal Abundance Patterns in Cool White Dwarfs. I. Time-dependent Calculations of Gravitational Settling. *J. Dupuis, G. Fontaine, C. Pelletier, & F. Wesemael.* 82, 505, 56-A7 (1992)

The Case of G226-29: Evidence for a Pulsating DA White Dwarf with a Thick Hydrogen Layer? *G. Fontaine, P. Brassard, P. Bergeron, & F. Wesemael.* 399, L91, 201-C13 (1992)

Two Unusual Cataclysmic Variables at High Galactic Latitude: CP Eridani and AL Comae. *Timothy M. C. Abbott, Edward L. Robinson, Gary J. Hill, & Carole A. Haswell.* 399, 680, 206-D1 (1992)

On the Pulsational Stability of the Pre–White Dwarf Star PG 1707+427. *Albert D. Grauer, Richard F. Green, & James Liebert.* 399, 686, 206-D7 (1992)

Discovery of Two Cool Magnetic White Dwarfs. *P. Bergeron, María-Teresa Ruiz, & S. K. Leggett.* 400, 315, 212-G5 (1992)

An Interpretation of the Spectral Properties of Hot Hydrogen-rich White Dwarfs with Stratified H/He Model Atmospheres. *Stéphane Vennes & Gilles Fontaine.* 401, 288, 224-E7 (1992)

Pycnonuclear Reaction Rates for Binary Ionic Mixtures. *S. Ichimaru, S. Ogata, & H. M. Van Horn.* 401, L35, 227-E7 (1992)

STARS: WOLF-RAYET

An Infrared Study of Three Wolf-Rayet Ring Nebulae. *J. S. Mathis, J. P. Cassinelli, K. A. van der Hucht, T. Prusti, P. R. Wesselius, & P. M. Williams.* 384, 197, 3-D5 (1992)

Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

Polarization Variability among Wolf-Rayet Stars. VII. The Single Stars WR 14, WR 25, and WR 69. *Laurent Drissen, Carmelle Robert, & Anthony F. J. Moffat.* 386, 288, 27-F11 (1992)

Constraints on the Surface Magnetic Fields of Hot Stars with Winds. *Murugesapillai Maheswaran & Joseph P. Cassinelli.* 386, 695, 33-G13 (1992)

Influence of the Large-Scale Star Formation Pattern on the Galactic Distribution of Wolf-Rayet Stars. *Emilio J. Alfaro, Antonio J. Delgado, & Jesús Cabrera-Caño.* 386, L47, 36-C5 (1992)

The Wind Geometry of the Wolf-Rayet Star HD 191765. *R. E. Schulte-Ladbeck, K. H. Nordsieck, M. Taylor, K. S. Bjorkman, A. M. Magalhães, & M. J. Wolff.* 387, 347, 41-C6 (1992)

An Accreting Black Hole Model for Sagittarius A*. *Fulvio Melia.* 387, L25, 43-C10 (1992)

Supernova Rates and the Reddening of Wolf-Rayet Stars. *Sidney van den Bergh.* 390, 133, 75-F1 (1992)

On the Chemodynamics of Wolf-Rayet Ring Nebulae: NGC 6888. *César Esteban & José M. Vílchez.* 390, 536, 82-A7 (1992)

The First Linear Polarization Spectra of Wolf-Rayet Stars in the Ultraviolet: EZ Canis Majoris and θ Muscae. *R. E. Schulte-Ladbeck, K. H. Nordsieck, A. D. Code, C. M. Anderson, B. L. Babler, K. S. Bjorkman, G. C. Clayton, A. M. Magalhães, M. R. Meade, D. Shepherd, M. Taylor, & B. A. Whitney.* 391, L37, 92-C6 (1992)

Upper Limit to the Mass of Pulsationally Stable Stars with Uniform Chemical Composition. *Richard B. Stothers.* 392, 706, 111-A7 (1992)

The Wolf-Rayet System WR 147: A Binary Radio Source with Thermal and Nonthermal Components. *E. Churchwell, J. H. Bieging, K. A. van der Hucht, P. M. Williams, T. A. Th. Spoelstra, & D. C. Abbott.* 393, 329, 118-C1 (1992)

Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

Self-consistent Models of Wolf-Rayet Stars as Helium Stars with Optically Thick Winds. *Mariko Kato & Icko Iben, Jr.* 394, 305, 131-F13 (1992)

Detection of WC9 Stars in NCG 1365. *Andrew C. Phillips & Peter S. Conti.* 395, L91, 154-A6 (1992)

Photometry, Polarimetry, Spectroscopy, and Spectropolarimetry of the Enigmatic Wolf-Rayet Star EZ Canis Majoris. *Carmelle Robert, Anthony F. J. Moffat, Laurent Drissen, Robert Lamontagne, Wilhelm Seggewiss, Virpi S. Niemela, Miguel A. Cerruti, Paul Barrett, Jeremy Bailey, Jorge Garcia, & Santiago Tapia.* 397, 277, 171-D1 (1992)

Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova,*

A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko. 82, 395, 54-G9 (1992)

The Spectrum of the Peculiar WC7+OB Star HD 192641. *Anne B. Underhill.* 398, 636, 192-A10 (1992)

Polarization Cancellation in the Two-Component Winds from Wolf-Rayet Stars. *M. Taylor & J. P. Cassinelli.* 401, 311, 224-G5 (1992)

Optical Spectrophotometry of Wolf-Rayet Galaxies. *William D. Vacca & Peter S. Conti.* 401, 543, 229-D1 (1992)

SUN: ABUNDANCES

On the Sensitivity of High-Degree p-Mode Frequencies to the Solar Convection Zone Helium Abundance. *Joyce A. Guzik & Arthur N. Cox.* 386, 729, 34-D1 (1992)

Variations in the Relative Elemental Abundances of Oxygen, Neon, Magnesium, and Iron in High-Temperature Solar Active-Region and Flare Plasmas. *D. L. McKenzie & U. Feldman.* 389, 764, 70-G7 (1992)

Measurement of the $^{76}Se(n,\gamma)$ Capture Cross Section and Phenomenological s-Process Studies: The Weak Component. *Hermann Beer, G. Walter, & F. Käppeler.* 389, 784, 71-B1 (1992)

Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE*. *R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

Composition and Azimuthal Spread of Solar Energetic Particles from Impulsive and Gradual Flares. *M.-B. Kallenrode, E. W. Cliver, & G. Wibberenz.* 391, 370, 90-D12 (1992)

The Fate of ^{7}Be in the Sun. *C. W. Johnson, E. Kolbe, S. E. Koonin, & K. Langanke.* 392, 320, 105-A1 (1992)

Element Abundances and Plasma Properties in a Coronal Polar Plume. *K. G. Widing & U. Feldman.* 392, 715, 111-B5 (1992)

Helium Diffusion in the Sun. *J. N. Bahcall & M. H. Pinsonneault.* 395, L119, 154-D7 (1992)

SUN: ACTIVITY

New Information on Solar Activity, 1779–1818, from Sir William Herschel's Unpublished Notebooks. *Douglas V. Hoyt & Kenneth H. Schatten.* 384, 361, 5-D9 (1992)

Sir William Herschel's Notebooks: Abstracts of Solar Observations. *Douglas V. Hoyt & Kenneth H. Schatten.* 78, 301, 5-G9 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. I. General Effects of the Changing Neutral Sheet over the Period 1985–1990. *M. S. Potgieter & J. A. Le Roux.* 386, 336, 28-D4 (1992)

Superevents: Their Origin and Propagation through the Heliosphere from 0.3 to 35 AU. *Wolfgang Dröge, Reinhold Müller-Mellin, & Edward W. Cliver.* 387, L97, 48-E10 (1992)

The 77 Day Periodicity in the Flare Rate of Cycle 22. *T. Bai.* 388, L69, 59-D3 (1992)

Large-Scale Flows and Solar Luminosity Variations. *S. Arendt.* 389, 421, 65-B6 (1992)

Solar Active Regions as a Percolation Phenomenon. *Donat G. Wentzel & Philip E. Seiden.* 390, 280, 77-D10 (1992)

Spatially Extended Measurements of Magnetic Field Strength in Solar Plages. *Douglas Rabin.* 391, 832, 98-C6 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. III. General Energy Dependence. *M. S. Potgieter & J. A. Le Roux.* 392, 300, 104-F5 (1992)

On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

Predicting Wolf's Sunspot Numbers with and without the Assumption of Periodicity. *Patricia B. Cerrito.* 393, 795, 125-G1 (1992)

The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations. *W. R. Pryor, J. M. Ajello, C. A. Barth, C. W. Hord, A. I. F. Stewart, K. E. Simmons, W. E. McClintock, B. R. Sandel, & D. E. Shemansky.* 394, 363, 132-D11 (1992)

Multiple Periodicities in the Solar Magnetic Field: Possible Origin in a Multiple-Mode Solar Dynamo. *D. W. Boyer & E. H. Levy.* 396, 340, 159-C6 (1992)

Search for Evidence of a Clock Related to the Solar 154 Day Complex of Periodicities. *P. A. Sturrock & T. Bai.* 397, 337, 172-A13 (1992)

Methods of Periodicity Analysis: Relationship between the Rayleigh Analysis and a Maximum Likelihood Method. *T. Bai.* 397, 584, 178-C6 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. IV. The Role of Heliospheric Neutral Sheet Deformation. *J. A. Le Roux & M. S. Potgieter.* 397, 686, 179-E11 (1992)

Pervasive Variability in the Quiet Solar Transition Region. *Douglas Rabin & James F. Dowdy, Jr.* 398, 665, 192-D1 (1992)

Three-dimensional Structures of Magnetostatic Atmospheres. IV. Magnetic Structures over a Solar Active Region. *B. C. Low.* 399, 300, 199-A6 (1992)

SUN: ATMOSPHERE

Localized Excitation of Solar Oscillations. *Philip R. Goode, Douglas Gough, & Alexander Kosovichev.* 387, 707, 47-E1 (1992)

Alfvén Wave Transmission through the Solar Atmosphere. *Philippe L. Similon & Shahrokh Zargham.* 388, 644, 58-C1 (1992)

On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

The Role of Chromospheric Condensations in the Continuum Emission of White-Light Flares. *W. Q. Gan, E. Rieger, H. Q. Zhang, & C. Fang.* 397, 694, 179-F8 (1992)

SUN: CHROMOSPHERE

Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. I. XUV Lines of He I and He II in Impulsive Flares. *J. M. Laming & U. Feldman.* 386, 364, 28-F8 (1992)

Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

Alfvénically Driven Slow Shocks in the Solar Chromosphere and Corona. *Joseph V. Hollweg.* 389, 731, 70-D10 (1992)

Maximum Principal Quantum Numbers of the Atomic Hydrogen in the Solar Chromosphere and Photosphere. *J. A. Kunc & W. H. Soon.* 396, 364, 159-E11 (1992)

Non-LTE Radiating Acoustic Shocks and Ca II K2V Bright Points. *Mats Carlsson & Robert F. Stein.* 397, L59, 173-G11 (1992)

The Role of Chromospheric Condensations in the Continuum Emission of White-Light Flares. *W. Q. Gan, E. Rieger, H. Q. Zhang, & C. Fang.* 397, 694, 179-F8 (1992)

Kinetic Description of Electron Beams in the Solar Chromosphere. *Daniel O. Gómez & Pablo J. D. Mauas.* 398, 682, 192-E6 (1992)

Coordinated Spectral and Temporal Hα Observations of a Solar Flare. *J.-F. de La Beaujardière, Alan L. Kiplinger, & Richard C. Canfield.* 401, 761, 232-A5 (1992)

SUN: CORONA

Quasi-static Evolution of Coronal Magnetic Fields. *D. W. Longcope & R. N. Sudan.* 384, 305, 4-F12 (1992)

The Theory of Magnetohydrodynamic Wave Generation by Localized Sources. III. Efficiency of Plasma Heating by Dissipation of Far-Field Waves. *William Collins.* 384, 319, 5-A1 (1992)

Magnetohydrodynamic Equilibria and Cusp Formation at an X-Type Neutral Line by Footpoint Shearing. *G. E. Vekstein & E. R. Priest.* 384, 333, 5-B3 (1992)

Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

Three-dimensional Force-free Magnetic Fields and Flare Energy Buildup. *J. A. Klimchuk & P. A. Sturrock.* 385, 344, 16-B6 (1992)

Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

Cylindrically Symmetric Force-free Magnetic Fields. *Lisa J. Porter, James A. Klimchuk, & Peter A. Sturrock.* 385, 738, 22-C6 (1992)

Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

Coronal Density and Temperature Structure from Coordinated Observations Associated with the Total Solar Eclipse of 1988 March 18. *M. Guhathakurta, G. J. Rottman, R. R. Fisher, F. Q. Orrall, & R. C. Altrock.* 388, 633, 58-B1 (1992)

Magnetohydrodynamic Waves in Sharply and Smoothly Bounded Cylinders. *Bonnie Jean Shulman & Ellen G. Zweibel.* 389, 428, 65-C1 (1992)

Alfvénically Driven Slow Shocks in the Solar Chromosphere and Corona. *Joseph V. Hollweg.* 389, 731, 70-D10 (1992)

Variations in the Relative Elemental Abundances of Oxygen, Neon, Magnesium, and Iron in High-Temperature Solar Active-Region and Flare Plasmas. *D. L. McKenzie & U. Feldman.* 389, 764, 70-G7 (1992)

Steady Siphon Flows in Closed Coronal Structures: Comparison with Extreme-Ultraviolet Observations. *G. Peres, D. Spadaro, & G. Noci.* 389, 777, 71-A8 (1992)

A Self-consistent Turbulent Model for Solar Coronal Heating. *J. Heyvaerts & E. R. Priest.* 390, 297, 77-F3 (1992)

Estimation of the Mass of a Coronal Mass Ejection from Radio Observations. *N. Gopalswamy & M. R. Kundu.* 390, L37, 78-F1 (1992)

Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)

Decimetric Solar Type U Bursts: VLA and PHOENIX Observations. *Markus J. Aschwanden, T. S. Bastian, A. O. Benz, & J. W. Brosius.* 391, 380, 90-E13 (1992)

The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

On Potential Field Models of the Solar Corona. *Y.-M. Wang & N. R. Sheeley, Jr.* 392, 310, 104-G1 (1992)

On Neutralized Currents in the Solar Corona. *Ladye Kathryn Wilkinson, A. Gordon Emslie, & G. Allen Gary.* 392, L39, 106-E7 (1992)

Self-similar Evolution of Magnetized Plasmas. I. Quasi-static Solution. *Wei-Hong Yang.* 392, 465, 108-B1 (1992)

Element Abundances and Plasma Properties in a Coronal Polar Plume. *K. G. Widing & U. Feldman.* 392, 715, 111-B5 (1992)

A Regularization Method for Extrapolation of Solar Potential Magnetic Fields. *G. Allen Gary & Z. E. Musielak.* 392, 722, 111-C1 (1992)

Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

Coronal Loops: Current-based Heating Processes. *P. Beaufumé, B. Coppi, & L. Golub.* 393, 396, 119-A11 (1992)

Fast Plasmoid Formation in Double Arcades. *J. M. Finn, P. N. Guzdar, & J. Chen.* 393, 800, 125-G7 (1992)

Dissipation of Magnetic Energy in the Solar Corona. *Allen H. Boozer.* 394, 357, 132-D4 (1992)

Development of Magnetohydrodynamic Turbulence in Coronal Loops. *Daniel O. Gómez & Constantino Ferro Fontán.* 394, 662, 137-F8 (1992)

On the Process of Resistive Heating Instability and the Formation of Coronal Loop Structures. *Yu-Qing Lou.* 395, 682, 151-F13 (1992)

Enhanced Damping of Alfvén Waves in the Solar Corona by a Turbulent Wave Spectrum. *Robert G. Kleva & J. F. Drake.* 395, 697, 152-A5 (1992)

Incompressible Disturbances in Nonuniform Media: Formation of Small Scales. *Francesco Malara, Pierluigi Veltri, Claudio Chiuderi, & Giorgio Einaudi.* 396, 297, 158-F13 (1992)

Steady and Nonsteady Siphon Flow in Hot Coronal Loops. *T. D. Robb & P. S. Cally.* 397, 329, 172-A1 (1992)

A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

Dielectronic Recombination as a Function of Electric Field Strength. *Daniel B. Reisenfeld.* 398, 386, 186-E9 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. II. Coronal Extreme Ultraviolet Lines. *U. Feldman, J. M. Laming, P. Mandelbaum, W.H. Goldstein, & A. Osterheld.* 398, 692, 192-F3 (1992)

Resonance Scattering of Fe XVII: A Density Diagnostic. *J. T. Schmelz, J. L. R. Saba, & K. T. Strong.* 398, L115, 194-F6 (1992)

Diagnostics of Electron-heated Solar Flare Models. III. Effects of Tapered Loop Geometry and Preheating. *A. Gordon Emslie, Peng Li, & John T. Mariska.* 399, 714, 206-G7 (1992)

Nonlinear Dissipation of Surface Alfvén Waves in the Solar Corona. *M. S. Ruderman.* 399, 724, 207-A5 (1992)

Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

Forced Reconnection, Current Sheets, and Coronal Heating. *Xiaogang Wang & A. Bhattacharjee.* 401, 371, 225-F1 (1992)

SUN: FACULAE, FLOCCULI

Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

A True-Field Magnetogram in a Solar Plage Region. *Douglas Rabin.* 390, L103, 85-D1 (1992)

Properties of the Smallest Solar Magnetic Elements. I. Facular Contrast near Sun Center. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 396, 351, 159-D6 (1992)

SUN: FLARES

Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

The Practical Application of the Magnetic Virial Theorem. *J. A. Klimchuk, R. C. Canfield, & J. E. Rhoads.* 385, 327, 16-A1 (1992)

Three-dimensional Force-free Magnetic Fields and Flare Energy Buildup. *J. A. Klimchuk & P. A. Sturrock.* 385, 344, 16-B6 (1992)

Fluid Flow in a Jet and the Ca XIX Line Profiles Observed during Solar Flares. *P. L. Bornmann & J. R. Lemen.* 385, 363, 16-D1 (1992)

C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)

The Origin of the Far-Ultraviolet Continuum in Solar and Stellar Flares. *K. J. H. Phillips, G. E. Bromage, & J. G. Doyle.* 385, 731, 22-B11 (1992)

Cylindrically Symmetric Force-free Magnetic Fields. *Lisa J. Porter, James A. Klimchuk, & Peter A. Sturrock.* 385, 738, 22-C6 (1992)

Transitions from Metastable Levels Emitted during Short-Duration Bursts: How Valid Are Their Calculated Intensities? *Uri Feldman.* 385, 758, 22-E1 (1992)

A Burst Model for Line Emission in the Solar Atmosphere. I. XUV Lines of He I and He II in Impulsive Flares. *J. M. Laming & U. Feldman.* 386, 364, 28-F8 (1992)

Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)

X-Ray–heated Models of Stellar Flare Atmospheres: Theory and Comparison with Observations. *Suzanne L. Hawley & George H. Fisher.* 78, 565, 10-F1 (1992)

Energy Propagation into a Flare Kernel during a Solar Flare. *D. B. Melrose.* 387, 403, 42-A1 (1992)

The Solar Flare Event on 1990 May 24: Evidence for Two Separate Particle Accelerations. *H. Debrunner, J. A. Lockwood, & J. M. Ryan.* 387, L51, 43-F7 (1992)

Energy Spectra of Ions from Impulsive Solar Flares. *D. V. Reames, I. G. Richardson, & K.-P. Wenzel.* 387, 715, 47-E11 (1992)

The 77 Day Periodicity in the Flare Rate of Cycle 22. *T. Bai.* 388, L69, 59-D3 (1992)

Taylor Relaxation of a Gold-Hoyle Flux Tube. *G. J. Rickard.* 389, 413, 65-A10 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

What Caused an Unusually Broad He I 10830 Å Emission Line in a Solar Limb Flare? *J. Q. You & G. K. Oertel.* 389, L33, 66-E1 (1992)

High-Energy Gamma-Ray Emission from Pion Decay in a Solar Flare Magnetic Loop. *Natalie Mandzhavidze & Reuven Ramaty.* 389, 739, 70-E6 (1992)

Characteristics of Hard X-Ray Spectra of Impulsive Solar Flares. *G. A. Dulk, A. L. Kiplinger, & R. M. Winglee.* 389, 756, 70-F11 (1992)

Variations in the Relative Elemental Abundances of Oxygen, Neon, Magnesium, and Iron in High-Temperature Solar Active-Region and Flare Plasmas. *D. L. McKenzie & U. Feldman.* 389, 764, 70-G7 (1992)

Magnetic Reconnection in Incompressible Fluids. *Edward E. DeLuca & Ian J. D. Craig.* 390, 679, 83-F7 (1992)

Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)

Composition and Azimuthal Spread of Solar Energetic Particles from Impulsive and Gradual Flares. *M.-B. Kallenrode, E. W. Cliver, & G. Wibberenz.* 391, 370, 90-D12 (1992)

The Sun as a Star: High Spectral Resolution Solar Data Degraded to Low-Dispersion *IUE* Resolution. *J. G. Doyle & J. W. Cook.* 391, 393, 90-G1 (1992)

A Thermal/Nonthermal Model for Solar Microwave Bursts. *Stephen G. Benka & Gordon D. Holman.* 391, 854, 98-E7 (1992)

Impulsive Phase Fe Kα Emission in a Flare of 1989 March. *D. M. Zarro, B. R. Dennis, & G. L. Slater.* 391, 865, 98-F6 (1992)

The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. I. Interaction with Parallel Transverse Cold Plasma Waves. *Jürgen Steinacker & James A. Miller.* 393, 764, 125-C10 (1992)

X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)

Propagation Conditions of Relativistic Electrons in the Inner Heliosphere. *M.-B. Kallenrode, G. Wibberenz, & S. Hucke.* 394, 351, 132-C11 (1992)

Microwave Transition Radiation in Solar Flares and in Astrophysics. *G. D. Fleishman & S. W. Kahler.* 394, 688, 138-A11 (1992)

Observation of Upflows during Soft X-Ray Solar Flares. *J. F. Seely & Uri Feldman.* 394, 697, 138-B9 (1992)

The Thermal and Plasma-physical Evolution of Laminar Current Sheets Formed in the Solar Atmosphere by Emerging Flux. *T. N. LaRosa.* 396, 289, 158-F3 (1992)

Gamma Rays from Pion Decay: Evidence for Long-Term Trappings of Particles in Solar Flares. *Natalie Mandzhavidze & Reuven Ramaty.* 396, L111, 167-F7 (1992)

The Role of Chromospheric Condensations in the Continuum Emission of White-Light Flares. *W. Q. Gan, E. Rieger, H. Q. Zhang, & C. Fang.* 397, 694, 179-F8 (1992)

Stochastic Acceleration of Electrons. I. Effects of Collisions in Solar Flares. *Russell J. Hamilton & Vahé Petrosian.* 398, 350, 186-B5 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. II. Implications of Thermal Effects in a Solar Flare Plasma. *James A. Miller & Jürgen Steinacker.* 399, 284, 198-F12 (1992)

Diagnostics of Electron-heated Solar Flare Models. III. Effects of Tapered Loop Geometry and Preheating. *A. Gordon Emslie, Peng Li, & John T. Mariska.* 399, 714, 206-G7 (1992)

Band Splitting in Solar Type II Radio Bursts. *R. A. Treumann & J. LaBelle.* 399, L167, 208-E7 (1992)

Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4. *Y. Muraki, K. Murakami, M. Miyazaki, K. Mitsui, S. Shibata, S. Sakakibara, T. Sakai, T. Takahashi, T. Yamada, & K. Yamaguchi.* 400, L75, 220-F1 (1992)

A Hybrid Thermal/Nonthermal Model for the Energetic Emissions from Solar Flares. *Gordon D. Holman & Stephen G. Benka.* 400, L79, 220-F8 (1992)

The Energy Spectra of Solar Flare Hydrogen, Helium, Oxygen, and Iron: Evidence for Stochastic Acceleration. *J. E. Mazur, G. M. Mason, B. Klecker, & R. E. McGuire.* 401, 398, 226-A5 (1992)

Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

The Coevolution of Decimetric Millisecond Spikes and Hard X-Ray Emission during Solar Flares. *Markus J. Aschwanden & Manuel Güdel.* 401, 736, 231-F1 (1992)

Coordinated Spectral and Temporal Hα Observations of a Solar Flare. *J.-F. de La Beaujardière, Alan L. Kiplinger, & Richard C. Canfield.* 401, 761, 232-A5 (1992)

SUN: GENERAL

Interior Opacities and the Standard Solar Model. *John Faulkner & Fritz J. Swenson.* 386, L55, 36-D1 (1992)

Large-Scale Flows and Solar Luminosity Variations. *S. Arendt.* 389, 421, 65-B6 (1992)

Preliminary Results of a Balloon Flight of the Solar Disk Sextant. *E. Maier, L. Twigg, & S. Sofia.* 389, 447, 65-D11 (1992)

A New Solar Irradiance Calibration from 3295 Å to 8500 Å Derived from Absolute Spectrophotometry of Vega. *G. W. Lockwood, H. Tüg, & N. M. White.* 390, 668, 83-E9 (1992)

Limb Observations of the 12.32 Micron Solar Emission Line during the 1991 July Total Eclipse. *Drake Deming, Donald E. Jennings, George McCabe, Robert Noyes, Gunter Wiedemann, & Fred Espenak.* 396, L53, 161-A6 (1992)

SUN: GRANULATION

On the Evidence for Mesogranules in Solar Power Spectra. *Gregory P. Ginet & George W. Simon.* 386, 359, 28-F1 (1992)

On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

Power Spectra of Median- and Small-Scale Solar Convection. *D.-Y. Chou, C.-S. Chen, K.-T. Ou, & C.-C. Wang.* 396, 333, 159-B11 (1992)

Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

SUN: INTERIOR

Solar Models with Enhanced Energy Transport in the Core. *J. Christensen-Dalsgaard.* 385, 354, 16-C3 (1992)

Tests of the Detection and Mode Classifications of Low-Degree Solar Gravity Modes with 1978 Solar Diameter Observations. *Henry A. Hill.* 78, 283, 5-F1 (1992)

Equilibrium of a Magnetic Flux Tube in a Compressible Flow. *Richard Kerswell & Stephen Childress.* 385, 746, 22-D1 (1992)

The Resolving Power of Current Helioseismic Inversions for the Sun's Internal Rotation. *J. Schou, J. Christensen-Dalsgaard, & M. J. Thompson.* 385, L59, 23-E1 (1992)

On the Sensitivity of High-Degree *p*-Mode Frequencies to the Solar Convection Zone Helium Abundance. *Joyce A. Guzik & Arthur N. Cox.* 386, 729, 34-D1 (1992)

Interior Opacities and the Standard Solar Model. *John Faulkner & Fritz J. Swenson.* 386, L55, 36-D1 (1992)

Standard Solar Model. *D. B. Guenther, P. Demarque, Y.-C. Kim, & M. H. Pinsonneault.* 387, 372, 41-E9 (1992)

Localized Excitation of Solar Oscillations. *Philip R. Goode, Douglas Gough, & Alexander Kosovichev.* 387, 707, 47-E1 (1992)

Cosmological Density of WIMPs from Solar and Terrestrial Annihilations. *Andrew Gould.* 388, 338, 54-E5 (1992)

Large-Scale Flows and Solar Luminosity Variations. *S. Arendt.* 389, 421, 65-B6 (1992)

Further Improvements of a New Model for Turbulent Convection in Stars. *V. M. Canuto & I. Mazzitelli.* 389, 724, 70-D1 (1992)

Standard Solar Model. II. *g*-Modes. *D. B. Guenther, P. Demarque, M. H. Pinsonneault, & Y.-C. Kim.* 392, 328, 105-A10 (1992)

Local Acoustic Diagnostics of the Solar Interior. *D. C. Braun, C. A. Lindsey, Y. Fan, & S. M. Jefferies.* 392, 739, 111-D7 (1992)

Solar Opacities Based on the Ion-Sphere and Ion-Correlation Models. *Balazs F. Rozsnyai.* 393, 409, 119-C1 (1992)

The Effect of an Inclined Magnetic Field on Solar Oscillation Frequencies. *Philip R. Goode & Michael J. Thompson.* 395, 307, 144-A1 (1992)

Helium Diffusion in the Sun. *J. N. Bahcall & M. H. Pinsonneault.* 395, L119, 154-D7 (1992)

Multiple Periodicities in the Solar Magnetic Field: Possible Origin in a Multiple-Mode Solar Dynamo. *D. W. Boyer & E. H. Levy.* 396, 340, 159-C6 (1992)

An Examination of the $m = 1$ Instability in a Low-Mass Protoplanetary Disk. *Hyerim Noh, Ethan T. Vishniac, & William D. Cochran.* 397, 347, 172-B11 (1992)

A Formulation of Convection for Stellar Structure and Evolution Calculations without the Mixing-Length Theory Approximations. I. Application to the Sun. *Thomas Joseph Lydon, Peter A. Fox, & Sabatino Sofia.* 397, 701, 179-G3 (1992)

Helioseismology Data and the Solar Dynamo. *P. R. Wilson.* 399, 294, 198-G11 (1992)

On the Photon Diffusion Time Scale for the Sun. *R. Mitalas & K. R. Sills.* 401, 759, 232-A1 (1992)

SUN: MAGNETIC FIELDS

Quasi-static Evolution of Coronal Magnetic Fields. *D. W. Longcope & R. N. Sudan.* 384, 305, 4-F12 (1992)

The Practical Application of the Magnetic Virial Theorem. *J. A. Klimchuk, R. C. Canfield, & J. E. Rhoads.* 385, 327, 16-A1 (1992)

Three-dimensional Force-free Magnetic Fields and Flare Energy Buildup. *J. A. Klimchuk & P. A. Sturrock.* 385, 344, 16-B6 (1992)

Detection of "Invisible Sunspots." *Harold Zirin & Haimin Wang.* 385, L27, 17-C12 (1992)

Emergence of Magnetic Flux from the Convection Zone into the Solar Atmosphere. I. Linear and Nonlinear Adiabatic Evolution of the Convective-Parker Instability. *S. Nozawa, K. Shibata, R. Matsumoto, A. C. Sterling, T. Tajima, Y. Uchida, A. Ferrari, & R. Rosner.* 78, 267, 5-D5 (1992)

Prominence Sheets Supported by Constant-Current Force-free Fields. II. Imposition of Normal Photospheric Field Component and Prominence Surface Current. *C. Ridgway, T. Amari, & E. R. Priest.* 385, 718, 22-A10 (1992)

Cylindrically Symmetric Force-free Magnetic Fields. *Lisa J. Porter, James A. Klimchuk, & Peter A. Sturrock.* 385, 738, 22-C6 (1992)

Equilibrium of a Magnetic Flux Tube in a Compressible Flow. *Richard Kerswell & Stephen Childress.* 385, 746, 22-D1 (1992)

Structure of Sunspot Penumbrae: Fallen Magnetic Flux Tubes. *Donat G. Wentzel.* 388, 211, 51-E11 (1992)

Taylor Relaxation of a Gold-Hoyle Flux Tube. *G. I. Rickard.* 389, 413, 65-A10 (1992)

On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

Solar Active Regions as a Percolation Phenomenon. *Donat G. Wentzel & Philip E. Seiden.* 390, 280, 77-D10 (1992)

Vortex Attraction and the Formation of Sunspots. *E. N. Parker.* 390, 290, 77-E8 (1992)

Self-similar Magnetohydrodynamics. V. Gravitating Spheres and Spheroids. *B. C. Low.* 390, 567, 82-D1 (1992)

Magnetic Reconnection in Incompressible Fluids. *Edward E. DeLuca & Ian J. D. Craig.* 390, 679, 83-F7 (1992)

A True-Field Magnetogram in a Solar Plage Region. *Douglas Rabin.* 390, L103, 85-D1 (1992)

Energy Buildup in Sheared Force-free Magnetic Fields. *Richard Wolfson & Boon Chye Low.* 391, 353, 90-C6 (1992)

Decimetric Solar Type U Bursts: VLA and PHOENIX Observations. *Markus J. Aschwanden, T. S. Bastian, A. O. Benz, & J. W. Brosius.* 391, 380, 90-E13 (1992)

Spatially Extended Measurements of Magnetic Field Strength in Solar Plages. *Douglas Rabin.* 391, 832, 98-C6 (1992)

The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

The Conversion of *p*-Modes to Slow Modes and the Absorption of Acoustic Waves by Sunspots. *H. C. Spruit & T. J. Bogdan.* 391, L109, 100-B7 (1992)

On Potential Field Models of the Solar Corona. *Y.-M. Wang & N. R. Sheeley, Jr.* 392, 310, 104-G1 (1992)

On Neutralized Currents in the Solar Corona. *Ladye Kathryn Wilkinson, A. Gordon Emslie, & G. Allen Gary.* 392, L39, 106-E7 (1992)

A Regularization Method for Extrapolation of Solar Potential Magnetic Fields. *G. Allen Gary & Z. E. Musielak.* 392, 722, 111-C1 (1992)

Local Acoustic Diagnostics of the Solar Interior. *D. C. Braun, C. A. Lindsey, Y. Fan, & S. M. Jefferies.* 392, 739, 111-D7 (1992)

Coronal Loops: Current-based Heating Processes. *P. Beaufumé, B. Coppi, & L. Golub.* 393, 396, 119-A11 (1992)

On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

Localized Sources of Propagating Acoustic Waves in the Solar Photosphere. *Timothy M. Brown, Thomas J. Bogdan, Bruce W. Lites, & John H. Thomas.* 394, L65, 139-E7 (1992)

The Effect of an Inclined Magnetic Field on Solar Oscillation Frequencies. *Philip R. Goode & Michael J. Thompson.* 395, 307, 144-A1 (1992)

The Thermal and Plasma-physical Evolution of Laminar Current Sheets Formed in the Solar Atmosphere by Emerging Flux. *T. N. LaRosa.* 396, 289, 158-F3 (1992)

Multiple Periodicities in the Solar Magnetic Field: Possible Origin in a Multiple-Mode Solar Dynamo. *D. W. Boyer & E. H. Levy.* 396, 340, 159-C6 (1992)

Properties of the Smallest Solar Magnetic Elements. I. Facular Contrast near Sun Center. *K. P. Topka, T. D. Tarbell, & A. M. Title.* 396, 351, 159-D6 (1992)

Inversion of Stokes Profiles. *B. Ruiz Cobo & J. C. del Toro Iniesta.* 398, 375, 186-D11 (1992)

Dielectronic Recombination as a Function of Electric Field Strength. *Daniel B. Reisenfeld.* 398, 386, 186-E9 (1992)

X-Ray Observations of Sunspot Penumbral Structure. *B. J. Sams III, L. Golub, & N. O. Weiss.* 399, 313, 199-B8 (1992)

Nonlinear Dissipation of Surface Alfvén Waves in the Solar Corona. *M. S. Ruderman.* 399, 724, 207-A5 (1992)

Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

Forced Reconnection, Current Sheets, and Coronal Heating. *Xiaogang Wang & A. Bhattacharjee.* 401, 371, 225-F1 (1992)

A New Determination of the Solar Rotation Rate. *N. R. Sheeley, Jr., Y.-M. Wang, & A. G. Nash.* 401, 378, 225-F9 (1992)

On the Inclination of Photospheric Solar Magnetic Fields. *Norman Murray.* 401, 386, 225-G5 (1992)

SUN: OSCILLATIONS

Linear Resistive Magnetohydrodynamic Computations of Resonant Absorption of Acoustic Oscillations in Sunspots. *Marcel Goossens & Stefaan Poedts.* 384, 348, 5-C8 (1992)

Solar Models with Enhanced Energy Transport in the Core. *J. Christensen-Dalsgaard.* 385, 354, 16-C3 (1992)

Tests of the Detection and Mode Classifications of Low-Degree Solar Gravity Modes with 1978 Solar Diameter Observations. *Henry A. Hill.* 78, 283, 5-F1 (1992)

The Resolving Power of Current Helioseismic Inversions for the Sun's Internal Rotation. *J. Schou, J. Christensen-Dalsgaard, & M. J. Thompson.* 385, L59, 23-E1 (1992)

On the Sensitivity of High-Degree *p*-Mode Frequencies to the Solar Convection Zone Helium Abundance. *Joyce A. Guzik & Arthur N. Cox.* 386, 729, 34-D1 (1992)

Interior Opacities and the Standard Solar Model. *John Faulkner & Fritz J. Swenson.* 386, L55, 36-D1 (1992)

Standard Solar Model. *D. B. Guenther, P. Demarque, Y.-C. Kim, & M. H. Pinsonneault.* 387, 372, 41-E9 (1992)

Localized Excitation of Solar Oscillations. *Philip R. Goode, Douglas Gough, & Alexander Kosovichev.* 387, 707, 47-E1 (1992)

On the Ultimate Accuracy of Solar Oscillation Frequency Measurements. *K. G. Libbrecht.* 387, 712, 47-E7 (1992)

Chromospheric Dynamics Based on Infrared Solar Brightness Variations. *G. Kopp, C. Lindsey, T. L. Roellig, M. W. Werner, E. E. Becklin, F. Q. Orrall, & J. T. Jefferies.* 388, 203, 51-E1 (1992)

Application of the Phase-Integral Method to the Trapping of Acoustic Waves in a Gravitating Fluid. I. Planar Polytrope and Turning-Point Behavior. *Gary H. Price.* 391, 845, 98-D10 (1992)

The Conversion of *p*-Modes to Slow Modes and the Absorption of Acoustic Waves by Sunspots. *H. C. Spruit & T. J. Bogdan.* 391, L109, 100-B7 (1992)

Scattering of *p*-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)

Standard Solar Model. II. *g*-Modes. *D. B. Guenther, P. Demarque, M. H. Pinsonneault, & Y.-C. Kim.* 392, 328, 105-A10 (1992)

Observations of High-Frequency and High-Wavenumber Solar Oscillations. *D. N. Fernandes, P. H. Scherrer, T. D. Tarbell, & A. M. Title.* 392, 736, 111-D1 (1992)

Local Acoustic Diagnostics of the Solar Interior. *D. C. Braun, C. A. Lindsey, Y. Fan, & S. M. Jefferies.* 392, 739, 111-D7 (1992)

Effects of Differential Rotation on Stellar Oscillations: A Second-Order Theory. *W. A. Dziembowski & Philip R. Goode.* 394, 670, 137-G5 (1992)

Localized Sources of Propagating Acoustic Waves in the Solar Photosphere. *Timothy M. Brown, Thomas J. Bogdan, Bruce W. Lites, & John H. Thomas.* 394, L65, 139-E7 (1992)

The Effect of an Inclined Magnetic Field on Solar Oscillation Frequencies. *Philip R. Goode & Michael J. Thompson.* 395, 307, 144-A1 (1992)

The Influence of a Vertical Magnetic Field on Oscillations in an Isothermal Stratified Atmosphere. *S. S. Hasan & J. Christensen-Dalsgaard.* 396, 311, 159-A1 (1992)

Power Spectra of Median- and Small-Scale Solar Convection. *D.-Y. Chou, C.-S. Chen, K.-T. Ou, & C.-C. Wang.* 396, 333, 159-B11 (1992)

Helioseismology Data and the Solar Dynamo. *P. R. Wilson.* 399, 294, 198-G11 (1992)

New Observations of 5 Minute Oscillations in the Opposite Flanks of Solar Fraunhofer Lines. I. The Effect of Varying the Spectral and Temporal Resolution. *L. Bertello, B. Caccin, P. Francia, & E. Pietropaolo.* 401, 768, 232-B1 (1992)

SUN: PARTICLE EMISSION

Energy Spectra of Ions from Impulsive Solar Flares. *D. V. Reames, I. G. Richardson, & K.-P. Wenzel.* 387, 715, 47-E11 (1992)

Superevents: Their Origin and Propagation through the Heliosphere from 0.3 to 35 AU. *Wolfgang Dröge, Reinhold Müller-Mellin, & Edward W. Cliver.* 387, L97, 48-E10 (1992)

High-Energy Gamma-Ray Emission from Pion Decay in a Solar Flare Magnetic Loop. *Natalie Mandzhavidze & Reuven Ramaty.* 389, 739, 70-E6 (1992)

The Simulated Features of Heliospheric Cosmic-Ray Modulation with a Time-dependent Drift Model. II. On the Energy Dependence of the Onset of New Modulation in 1987. *J. A. Le Roux & M. S. Potgieter.* 390, 661, 83-E1 (1992)

The Influence of the Large-Scale Interplanetary Shock Structure on a Low-Energy Particle Event. *A. M. Heras, B. Sanahuja, Z. K. Smith, T. Detman, & M. Dryer.* 391, 359, 90-C13 (1992)

Composition and Azimuthal Spread of Solar Energetic Particles from Impulsive and Gradual Flares. *M.-B. Kallenrode, E. W. Cliver, & G. Wibberenz.* 391, 370, 90-D12 (1992)

The Production of ^{3}He and Heavy Ion Enrichments in ^{3}He-rich Flares by Electromagnetic Hydrogen Cyclotron Waves. *M. Temerin & I. Roth.* 391, L105, 100-B1 (1992)

Probing the Heliosphere with Energetic Hydrogen Atoms. *K. C. Hsieh, K. L. Shih, J. R. Jokipii, & S. Grzedzielski.* 393, 756, 125-C1 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. I. Interaction with Parallel Transverse Cold Plasma Waves. *Jürgen Steinacker & James A. Miller.* 393, 764, 125-C10 (1992)

Propagation Conditions of Relativistic Electrons in the Inner Heliosphere. *M.-B. Kallenrode, G. Wibberenz, & S. Hucke.* 394, 351, 132-C11 (1992)

Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)

Gamma Rays from Pion Decay: Evidence for Long-Term Trappings of Particles in Solar Flares. *Natalie Mandzhavidze & Reuven Ramaty.* 396, L111, 167-F7 (1992)

Kinetic Description of Electron Beams in the Solar Chromosphere. *Daniel O. Gómez & Pablo J. D. Mauas.* 398, 682, 192-E6 (1992)

Stochastic Gyroresonant Electron Acceleration in a Low-Beta Plasma. II. Implications of Thermal Effects in a Solar Flare Plasma. *James A. Miller & Jürgen Steinacker.* 399, 284, 198-F12 (1992)

Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4. *Y. Muraki, K. Murakami, M. Miyazaki, K. Mitsui, S. Shibata, S. Sakakibara, T. Sakai, T. Takahashi, T. Yamada, & K. Yamaguchi.* 400, L75, 220-F1 (1992)

The Energy Spectra of Solar Flare Hydrogen, Helium, Oxygen, and Iron: Evidence for Stochastic Acceleration. *J. E. Mazur, G. M. Mason, B. Klecker, & R. E. McGuire.* 401, 398, 226-A5 (1992)

SUN: PHOTOSPHERE

Localized Sources of Propagating Acoustic Waves in the Solar Photosphere. *Timothy M. Brown, Thomas J. Bogdan, Bruce W. Lites, & John H. Thomas.* 394, L65, 139-E7 (1992)

SUN: PROMINENCES

Prominence Sheets Supported by Constant-Current Force-free Fields. II. Imposition of Normal Photospheric Field Component and Prominence Surface Current. *C. Ridgway, T. Amari, & E. R. Priest.* 385, 718, 22-A10 (1992)

Weighted Current Sheets Supported in Normal and Inverse Configurations: A Model for Prominence Observations. *P. Démoulin & T. G. Forbes.* 387, 394, 41-G5 (1992)

The Effect of Line Tying on Parker's Instability. *Ellen G. Zweibel & David L. Bruhwiler.* 399, 318, 199-C11 (1992)

Magnetohydrodynamic Waves in a Solar Prominence. *R. Oliver, J. L. Ballester, A. W. Hood, & E. R. Priest.* 400, 369, 213-E1 (1992)

SUN: RADIO RADIATION

Multifrequency Observations of a Remarkable Solar Radio Burst. *S. M. White, M. R. Kundu, T. S. Bastian, D. E. Gary, G. J. Hurford, T. Kucera, & J. H. Bieging.* 384, 656, 10-C5 (1992)

Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

High Dynamic Range Multifrequency Radio Observations of a Solar Active Region. *S. M. White, M. R. Kundu, & N. Gopalswamy.* 78, 599, 11-A13 (1992)

Connection between Ambient Density Fluctuations and Clumpy Langmuir Waves in Type III Radio Sources. *P. A. Robinson, I. H. Cairns, & D. A. Gurnett.* 387, L101, 48-F1 (1992)

Estimation of the Mass of a Coronal Mass Ejection from Radio Observations. *N. Gopalswamy & M. R. Kundu.* 390, L37, 78-F1 (1992)

Decimetric Solar Type U Bursts: VLA and PHOENIX Observations. *Markus J. Aschwanden, T. S. Bastian, A. O. Benz, & J. W. Brosius.* 391, 380, 90-E13 (1992)

A Thermal/Nonthermal Model for Solar Microwave Bursts. *Stephen G. Benka & Gordon D. Holman.* 391, 854, 98-E7 (1992)

Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

Band Splitting in Solar Type II Radio Bursts. *R. A. Treumann & J. LaBelle.* 399, L167, 208-E7 (1992)

Measurement of the Solar Limb Brightness Profile at 3 Millimeters during the Total Eclipse of 1991 July 11. *L. Belkora, G. J. Hurford, Dale E. Gary, & D. P. Woody.* 400, 692, 219-B1 (1992)

The Coevolution of Decimetric Millisecond Spikes and Hard X-Ray Emission during Solar Flares. *Markus J. Aschwanden & Manuel Güdel.* 401, 736, 231-F1 (1992)

SUN: ROTATION

Tests of the Detection and Mode Classifications of Low-Degree Solar Gravity Modes with 1978 Solar Diameter Observations. *Henry A. Hill.* 78, 283, 5-F1 (1992)

The Resolving Power of Current Helioseismic Inversions for the Sun's Internal Rotation. *J. Schou, J. Christensen-Dalsgaard, & M. J. Thompson.* 385, L59, 23-E1 (1992)

Search for Evidence of a Clock Related to the Solar 154 Day Complex of Periodicities. *P. A. Sturrock & T. Bai.* 397, 337, 172-A13 (1992)

An Examination of the $m = 1$ Instability in a Low-Mass Protoplanetary Disk. *Hyerim Noh, Ethan T. Vishniac, & William D. Cochran.* 397, 347, 172-B11 (1992)

Helioseismology Data and the Solar Dynamo. *P. R. Wilson.* 399, 294, 198-G11 (1992)

A New Determination of the Solar Rotation Rate. *N. R. Sheeley, Jr., Y.-M. Wang, & A. G. Nash.* 401, 378, 225-F9 (1992)

SUN: SOLAR WIND

Connection between Ambient Density Fluctuations and Clumpy Langmuir Waves in Type III Radio Sources. *P. A. Robinson, I. H. Cairns, & D. A. Gurnett.* 387, L101, 48-F1 (1992)

Variable Carbon and Oxygen Abundances in the Solar Wind as Observed in Earth's Magnetosheath by *AMPTE/CCE*. *R. von Steiger, S. P. Christon, G. Gloeckler, & F. M. Ipavich.* 389, 791, 71-B10 (1992)

Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

Constraints on the Acceleration of Anomalous Cosmic Rays. *J. R. Jokipii.* 393, L41, 120-F8 (1992)

Ion Injection and Fermi Acceleration at Earth's Bow Shock: The 1984 September 12 Event Revisited. *M. Scholer, K. J. Trattner, & H. Kucharek.* 395, 675, 151-F1 (1992)

A New Way to Convert Alfvén Waves into Heat in Solar Coronal Holes: Intermittent Magnetic Levitation. *R. L. Moore, R. Hammer, Z. E. Musielak, S. T. Suess, & C.-H. An.* 397, L55, 173-G5 (1992)

Why All Stars Should Possess Circumstellar Temperature Inversions. *Jack D. Scudder.* 398, 319, 185-F11 (1992)

A Parameter Study of the Two-Fluid Solar Wind. *Ørnulf Sandbæk, Egil Leer, & Thomas E. Holzer.* 400, 362, 213-D8 (1992)

SUN: SUNSPOTS

Linear Resistive Magnetohydrodynamic Computations of Resonant Absorption of Acoustic Oscillations in Sunspots. *Marcel Goossens & Stefaan Poedts.* 384, 348, 5-C8 (1992)

New Information on Solar Activity, 1779–1818, from Sir William Herschel's Unpublished Notebooks. *Douglas V. Hoyt & Kenneth H. Schatten.* 384, 361, 5-D9 (1992)

Detection of "Invisible Sunspots." *Harold Zirin & Haimin Wang.* 385, L27, 17-C12 (1992)

Sir William Herschel's Notebooks: Abstracts of Solar Observations. *Douglas V. Hoyt & Kenneth H. Schatten.* 78, 301, 5-G9 (1992)

Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

High Dynamic Range Multifrequency Radio Observations of a Solar Active Region. *S. M. White, M. R. Kundu, & N. Gopalswamy.* 78, 599, 11-A13 (1992)

Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)

Structure of Sunspot Penumbrae: Fallen Magnetic Flux Tubes. *Donat G. Wentzel.* 388, 211, 51-E11 (1992)

Vortex Attraction and the Formation of Sunspots. *E. N. Parker.* 390, 290, 77-E8 (1992)

The Conversion of p-Modes to Slow Modes and the Absorption of Acoustic Waves by Sunspots. *H. C. Spruit & T. J. Bogdan.* 391, L109, 100-B7 (1992)

Scattering of p-Modes by a Sunspot. *D. C. Braun, T. L. Duvall, Jr., B. J. LaBonte, S. M. Jefferies, J. W. Harvey, & M. A. Pomerantz.* 391, L113, 100-C1 (1992)

On Neutralized Currents in the Solar Corona. *Ladye Kathryn Wilkinson, A. Gordon Emslie, & G. Allen Gary.* 392, L39, 106-E7 (1992)

Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

Predicting Wolf's Sunspot Numbers with and without the Assumption of Periodicity. *Patricia B. Cerrito.* 393, 795, 125-G1 (1992)

Search for Evidence of a Clock Related to the Solar 154 Day Complex of Periodicities. *P. A. Sturrock & T. Bai.* 397, 337, 172-A13 (1992)

Observation and Interpretation of the Asymmetric Stokes Q, U, and V Line Profiles in Sunspots. *J. Sánchez Almeida & B. W. Lites.* 398, 359, 186-C1 (1992)

Three-dimensional Structures of Magnetostatic Atmospheres. IV. Magnetic Structures over a Solar Active Region. *B. C. Low.* 399, 300, 199-A6 (1992)

X-Ray Observations of Sunspot Penumbral Structure. *B. J. Sams III, L. Golub, & N. O. Weiss.* 399, 313, 199-B8 (1992)

SUN: TRANSITION REGION

Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)

On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

Steady Siphon Flows in Closed Coronal Structures: Comparison with Extreme-Ultraviolet Observations. *G. Peres, D. Spadaro, & G. Noci.* 389, 777, 71-A8 (1992)

Pervasive Variability in the Quiet Solar Transition Region. *Douglas Rabin & James F. Dowdy, Jr.* 398, 665, 192-D1 (1992)

Solar Doppler-Shift Measurements in the Ne VII 465 Å Emission Line. *John T. Mariska & James F. Dowdy, Jr.* 401, 754, 231-G8 (1992)

SUN: UV RADIATION

C IV Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, V. M. Burke, & K. G. Widing.* 385, 381, 16-E9 (1992)

Solar Si II Line Ratios from the High-Resolution Telescope and Spectrograph. *F. P. Keenan, J. W. Cook, P. L. Dufton, & A. E. Kingston.* 387, 726, 47-F9 (1992)

Ne V Line Ratios in the EUV Spectra of Solar Flares. *F. P. Keenan, E. S. Conlon, L. K. Harra, K. M. Aggarwal, & K. G. Widing.* 389, 440, 65-D1 (1992)

On the Density and Field Sensitivities of Dielectronic Recombination. *Daniel B. Reisenfeld, John C. Raymond, Albert R. Young, & John L. Kohl.* 389, L37, 66-E5 (1992)

A Rotating Tomographic Imager for Solar Extreme-Ultraviolet/Soft X-Ray Emission. *Joseph M. Davila & W. T. Thompson.* 389, L91, 73-F8 (1992)

The Sun as a Star: High Spectral Resolution Solar Data Degraded to Low-Dispersion *IUE* Resolution. *J. G. Doyle & J. W. Cook.* 391, 393, 90-G1 (1992)

Evidence for Mass Outflow in the Low Solar Corona over a Large Sunspot. *Werner M. Neupert, Jeffrey W. Brosius, Roger J. Thomas, & William T. Thompson.* 392, L95, 113-F6 (1992)

The *Galileo* and *Pioneer Venus* Ultraviolet Spectrometer Experiments: Solar Lyman-α Latitude Variation at Solar Maximum from Interplanetary Lyman-α Observations. *W. R. Pryor, J. M. Ajello, C. A. Barth, C. W. Hord, A. I. F. Stewart, K. E. Simmons, W. E. McClintock, B. R. Sandel, & D. E. Shemansky.* 394, 363, 132-D11 (1992)

Dielectronic Recombination as a Function of Electric Field Strength. *Daniel B. Reisenfeld.* 398, 386, 186-E9 (1992)

Extreme Ultraviolet Line Ratios for Ca XV Applicable to Solar Flare Spectra. *F. P. Keenan, E. S. Conlon, V. J. Foster, K. M. Aggarwal, & K. G. Widing.* 401, 411, 226-B5 (1992)

Photon Escape Probabilities from Resolved Sources: Application to Solar C III Limb Emission. *S. O. Kastner & A. K. Bhatia.* 401, 416, 226-C1 (1992)

Solar Doppler-Shift Measurements in the Ne VII 465 Å Emission Line. *John T. Mariska & James F. Dowdy, Jr.* 401, 754, 231-G8 (1992)

SUN: X-RAYS, GAMMA RAYS

Energetics and Dynamics in a Large Solar Flare of 1989 March. *Jean-Pierre Wülser, Dominic M. Zarro, & Richard C. Canfield.* 384, 341, 5-B13 (1992)

Fluid Flow in a Jet and the Ca XIX Line Profiles Observed during Solar Flares. *P. L. Bornmann & J. R. Lemen.* 385, 363, 16-D1 (1992)

Fe XVIII Emission-Line Intensities in the Sun. *D. L. McKenzie, F. P. Keenan, S. M. McCann, K. A. Berrington, A. Hibbert, & M. Mohan.* 385, 378, 16-E5 (1992)

Transitions from Metastable Levels Emitted during Short-Duration Bursts: How Valid Are Their Calculated Intensities? *Uri Feldman.* 385, 758, 22-E1 (1992)

Coronal Magnetic Structures Observing Campaign. IV. Multiwaveband Observations of Sunspot and Plage-associated Coronal Emission. *Jeffrey W. Brosius, Robert F. Willson, Gordon D. Holman, & Joan T. Schmelz.* 386, 347, 28-E1 (1992)

Energy Spectra of Ions from Impulsive Solar Flares. *D. V. Reames, I. G. Richardson, & K.-P. Wenzel.* 387, 715, 47-E11 (1992)

High-Energy Gamma-Ray Emission from Pion Decay in a Solar Flare Magnetic Loop. *Natalie Mandzhavidze & Reuven Ramaty.* 389, 739, 70-E6 (1992)

Characteristics of Hard X-Ray Spectra of Impulsive Solar Flares. *G. A. Dulk, A. L. Kiplinger, & R. M. Winglee.* 389, 756, 70-F11 (1992)

Variations in the Relative Elemental Abundances of Oxygen, Neon, Magnesium, and Iron in High-Temperature Solar Active-Region and Flare Plasmas. *D. L. McKenzie & U. Feldman.* 389, 764, 70-G7 (1992)

A Rotating Tomographic Imager for Solar Extreme-Ultraviolet/Soft X-Ray Emission. *Joseph M. Davila & W. T. Thompson.* 389, L91, 73-F8 (1992)

Stereoscopic Observations of a Solar Flare Hard X-Ray Source in the High Corona. *S. R. Kane, J. McTiernan, J. Loran, E. E. Fenimore, R. W. Klebesadel, & J. G. Laros.* 390, 687, 83-G7 (1992)

Impulsive Phase Fe Kα Emission in a Flare of 1989 March. *D. M. Zarro, B. R. Dennis, & G. L. Slater.* 391, 865, 98-F6 (1992)

X-Ray Emission-Line Ratios in Mg XI as Electron Temperature Diagnostics for Solar Flares and Active Regions. *F. P. Keenan, K. J. H. Phillips, L. K. Harra, E. S. Conlon, & A. E. Kingston.* 393, 815, 126-A9 (1992)

Observation of Upflows during Soft X-Ray Solar Flares. *J. F. Seely & Uri Feldman.* 394, 697, 138-B9 (1992)

On the Process of Resistive Heating Instability and the Formation of Coronal Loop Structures. *Yu-Qing Lou.* 395, 682, 151-F13 (1992)

Resonance Scattering of Fe XVII: A Density Diagnostic. *J. T. Schmelz, J. L. R. Saba, & K. T. Strong.* 398, L115, 194-F6 (1992)

X-Ray Observations of Sunspot Penumbral Structure. *B. J. Sams III, L. Golub, & N. O. Weiss.* 399, 313, 199-B8 (1992)

Coronal Magnetic Structures Observing Campaign. II. Magnetic and Plasma Properties of a Solar Active Region. *J. T. Schmelz, G. D. Holman, J. W. Brosius, & R. D. Gonzalez.* 399, 733, 207-B1 (1992)

Observation of Solar Neutrons Associated with the Large Flare on 1991 June 4. *Y. Muraki, K. Murakami, M. Miyazaki, K. Mitsui, S. Shibata, S. Sakakibara, T. Sakai, T. Takahashi, T. Yamada, & K. Yamaguchi.* 400, L75, 220-F1 (1992)

A Hybrid Thermal/Nonthermal Model for the Energetic Emissions from Solar Flares. *Gordon D. Holman & Stephen G. Benka.* 400, L79, 220-F8 (1992)

The Coevolution of Decimetric Millisecond Spikes and Hard X-Ray Emission during Solar Flares. *Markus J. Aschwanden & Manuel Güdel.* 401, 736, 231-F1 (1992)

SURVEYS

A Magnitude-limited Survey of Cepheid Companions in the Ultraviolet. *Nancy Remage Evans.* 384, 220, 3-F4 (1992)

A Redshift Survey of *IRAS* Galaxies. IV. The Galaxy Distribution and the Inferred Density Field. *Michael A. Strauss, Marc Davis, Amos Yahil, & John P. Huchra.* 385, 421, 18-D11 (1992)

Star Formation in Taurus. I. The *IRAS* Faint Source Survey. *C. A. Beichman, F. Boulanger, & M. Moshir.* 386, 248, 27-C5 (1992)

Predicted Galaxy Counts in CO Emission. *Frances Verter.* 386, 398, 30-D1 (1992)

The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

A Study of a 21 Centimeter–selected Sample of Galaxies. I. The Survey. *P. A. Henning.* 78, 365, 7-D3 (1992)

Spectroscopy and Spectral Types for 387 Stellar Objects from the Large, Bright QSO Survey. *Christopher Berg, Gary Wegner, Craig B. Foltz, Frederic H. Chaffee, Jr., & Paul C. Hewett.* 78, 409, 8-B7 (1992)

The Bell Laboratories H I Survey. *Antony A. Stark, Charles F. Gammie, Robert W. Wilson, John Bally, Richard A. Linke, Carl Heiles, & Mark Hurwitz.* 79, 77, 13-D1 (1992)

H I Observations of Galaxies in the Hercules Supercluster. II. Additional UGC Galaxies and Galaxies in Selected CGCG Fields. *Wolfram Freudling, Martha P. Haynes, & Riccardo Giovanelli.* 79, 157, 16-B1 (1992)

A Near-Infrared Imaging Survey of Interacting Galaxies: The Small Angular-Size Arp Systems. *Howard A. Bushouse & S. Adam Stanford.* 79, 213, 16-G11 (1992)

A New Catalog of 30,239 1.4 GHz Sources. *Richard L. White & Robert H. Becker.* 79, 331, 18-G9 (1992)

Relation of Redshift Surveys to Matter Distribution in Spherically Symmetric Dust Universes. *Hannu Kurki-Suonio & Edison Liang.* 390, 5, 74-B7 (1992)

The Stromlo–APM Redshift Survey. I. The Luminosity Function and Space Density of Galaxies. *J. Loveday, B. A. Peterson, G. Efstathiou, & S. J. Maddox.* 390, 338, 79-D5 (1992)

Mg II Absorption in the Spectra of 103 QSOs: Implications for the Evolution of Gas in High-Redshift Galaxies. *Charles C. Steidel & Wallace L. W. Sargent.* 80, 1, 22-B1 (1992)

The Emission-Line Properties of Low-Redshift Quasi-stellar Objects. *Todd A. Boroson & Richard F. Green.* 80, 109, 23-G9 (1992)

The Structure of Southern Extragalactic Radio Sources. *Paul A. Jones & W. Bruce McAdam.* 80, 137, 24-C3 (1992)

Compact Radio Sources near the Galactic Plane. *D. J. Helfand, S. Zoonematkermani, R. H. Becker, & R. L. White.* 80, 211, 25-B1 (1992)

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

Radio Properties of Optically Selected Quasars. *K. L. Visnovsky, C. D. Impey, C. B. Foltz, P. C. Hewett, R. J. Weymann, & S. L. Morris.* 391, 560, 94-G11 (1992)

A 20 Centimeter VLA Survey of Abell Clusters of Galaxies. II. Images and Optical Identifications. *Frazer N. Owen, Richard A. White, & Jack O. Burns.* 80, 501, 30-D13 (1992)

Gravitational Lensing of Quasars as Seen by the *Hubble Space Telescope* Snapshot Survey. *D. Maoz, J. N. Bahcall, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 394, 51, 128-F6 (1992)

A Complete CO Survey of the Cygnus X Region. *Helen O. Leung & P. Thaddeus.* 81, 267, 38-F3 (1992)

Near-Infrared Observations of Young Stellar Objects in the ρ Ophiuchi Dark Cloud. *Thomas P. Greene & Erick T. Young.* 395, 516, 149-B5 (1992)

A Southern Sky Survey of the Peculiar Velocities of 1355 Spiral Galaxies. *D. S. Mathewson, V. L. Ford, & M. Buchhorn.* 81, 413, 41-B1 (1992)

The Spectroscopic and Photometric Evolution of Novae in the Bulge of M31. *Austin B. Tomaney & Allen W. Shafter.* 81, 683, 45-C11 (1992)

An *IRAS* Survey of Galactic Supernova Remnants. *Jon M. Saken, Robert A. Fesen, & J. Michael Shull.* 81, 715, 45-F9 (1992)

Optical Identification, Radio Galaxy Environment, and Statistical Properties for a Homogeneous Sample of 3196 Radio Sources from the Texas Survey. *Elizabeth P. Bozyan.* 82, 1, 49-B1 (1992)

The Case Low-Dispersion Northern Sky Survey. XIII. A Region in Central Bootes and Corona Borealis. *C. B. Stephenson, Peter Pesch, & D. Jack MacConnell.* 82, 471, 55-D3 (1992)

Pearson-Readhead Survey Sources: Properties of the Centimeter-Wavelength Flux and Polarization of a Complete Radio Sample. *M. F. Aller, H. D. Aller, & P. A. Hughes.* 399, 16, 195-C8 (1992)

A Redshift Survey of *IRAS* Galaxies. VII. The Infrared and Redshift Data for the 1.936 Jansky Sample. *Michael A. Strauss, John P. Huchra, Marc Davis, Amos Yahil, Karl B. Fisher, & John Tonry.* 83, 29, 57-D3 (1992)

Large-Scale Structure in the Universe: Results from the Stromlo-APM Redshift Survey. *J. Loveday, G. Efstathiou, B. A. Peterson, & S. J. Maddox.* 400, L43, 220-B1 (1992)

The CFHT North Galactic Pole Faint Galaxy Survey. *L. Infante & C. J. Pritchet.* 83, 237, 61-B1 (1992)

TECHNIQUES: IMAGE PROCESSING

Comparing Restored *HST* and VLA Imagery of R Aquarii. *J. M. Hollis, J. E. Dorband, & F. Yusef-Zadeh.* 386, 293, 27-G3 (1992)

Optical Tracers of Spiral Wave Resonances in Galaxies. II. Hidden Three-Arm Spirals in a Sample of 18 Galaxies. *Bruce G. Elmegreen, Debra Meloy Elmegreen, & Luis Montenegro.* 79, 37, 12-E9 (1992)

Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

TECHNIQUES: INTERFEROMETRIC

Positions of the Radio Recombination Line Masers in MWC 349. *P. Planesas, J. Martín-Pintado, & E. Serabyn.* 386, L23, 29-D1 (1992)

The Structure and Dynamics of the Gaseous and Stellar Components in Centaurus A. *Richard A. Nicholson, Jonathan Bland-Hawthorn, & Keith Taylor.* 387, 503, 45-A1 (1992)

Discovery of Extended Faraday Rotation Compatible with Spiral Structure in an Intervening Galaxy at $z = 0.395$: New Observations of PKS 1229−021. *Philipp P. Kronberg, Judith J. Perry, & Edwin L. H. Zukowski.* 387, 528, 45-C1 (1992)

First Results of an On-Line Adaptive Optics System with Atmospheric Wavefront Sensing by an Artificial Neural Network. *M. Lloyd-Hart, P. Wizinowich, B. McLeod, D. Wittman, D. Colucci, R. Dekany, D. McCarthy, J. R. P. Angel, & D. Sandler.* 390, L41, 78-F8 (1992)

The Structure of Southern Extragalactic Radio Sources. *Paul A. Jones & W. Bruce McAdam.* 80, 137, 24-C3 (1992)

A VLBI Search for AGN Radio Cores in Starburst Galaxies. *Colin J. Lonsdale, Carol J. Lonsdale, & Harding E. Smith.* 391, 629, 95-G6 (1992)

A Measurement of the Primordial Helium Abundance Using μ Cassiopeiae. *James W. Haywood, Dennis J. Hegyi, & Donald H. Gudehus.* 392, 172, 103-B1 (1992)

A Completely Sampled Aperture Synthesis Map of the CO Emission in M51. *David S. Adler, K. Y. Lo, Melvyn C. H. Wright, Gustav Rydbeck, Raymond L. Plante, & Ronald J. Allen.* 392, 497, 108-D11 (1992)

Three-Epoch VLBI Observations of the Nucleus in the Lobe-dominated Quasar 3C 334. *D. H. Hough, A. C. S. Readhead, D. A. Wood, Jr., & J. J. Feldmeier.* 393, 81, 115-B1 (1992)

High-Resolution Images of Dust Emission from Orion-KL. *Melvyn Wright, Goeran Sandell, David J. Wilner, & Richard L. Plambeck.* 393, 225, 117-A1 (1992)

A Speckle Hologram of the Interstellar Plasma. *K. M. Desai, C. R. Gwinn, J. Reynolds, E. A. King, D. Jauncey, C. Flanagan, G. Nicolson, R. A. Preston, & D. L. Jones.* 393, L75, 127-E7 (1992)

Detectability of the Gravitational Wave Signal from a Close Neutron Star Binary with Mass Transfer. *Piotr Jaranowski & Andrzej Krolak.* 394, 586, 136-F1 (1992)

VLBI Observations of the X-Ray Binary LS I +61°303. *A. R. Taylor, H. T. Kenny, R. E. Spencer, & A. Tzioumis.* 395, 268, 143-D11 (1992)

The Compact Triples 0710+439 and 2352+495: A New Morphology of Radio Galaxy Nuclei. *J. E. Conway, T. J. Pearson, A. C. S. Readhead, S. C. Unwin, W. Xu, & R. L. Mutel.* 396, 62, 155-G7 (1992)

Interstellar Scattering toward the Galactic Center as Probed by OH/IR Stars. *Huib Jan van Langevelde, Dale A. Frail, James M. Cordes, & Philip J. Diamond.* 396, 686, 165-G9 (1992)

Kinematics of W3(OH): First Proper Motions of OH Masers from VLBI Measurements. *E. E. Bloemhof, M. J. Reid, & J. M. Moran.* 397, 500, 177-A12 (1992)

Kinematics of the Parsec-Scale Relativistic Jet in 3C 345. *Stephen C. Unwin & Ann E. Wehrle.* 398, 74, 183-A1 (1992)

Radio Images of Sagittarius. I. Overview, Sagittarius D, and Sagittarius E. *Harvey S. Liszt.* 82, 495, 55-G1 (1992)

Imaging Spectrophotometry of the Orion Nebula Core. I. Emission-Line Mapping and Physical Conditions. *Richard W. Pogge, J. Michael Owen, & Bruce Atwood.* 399, 147, 197-A9 (1992)

VLBI Observations of the 6.7 GHz Methanol Masers toward W3(OH). *K. M. Menten, M. J. Reid, P. Pratap, J. M. Moran, & T. L. Wilson.* 401, L39, 227-F1 (1992)

TECHNIQUES: PHOTOMETRIC

A Complete, Multicolor Survey of Absolute Proper Motions to $B \sim 22.5$: Galactic Structure and Kinematics at the North Galactic Pole. *Steven Raymond Majewski.* 78, 87, 2-F11 (1992)

A New Solar Irradiance Calibration from 3295 Å to 8500 Å Derived from Absolute Spectrophotometry of Vega. *G. W. Lockwood, H. Tüg, & N. M. White.* 390, 668, 83-E9 (1992)

Extending the Macho Search to $\sim 10^6\ M_\odot$. *Andrew Gould.* 392, 442, 107-G1 (1992)

New Cepheid Distances to Nearby Galaxies Based on *BVRI* CCD Photometry. III. NGC 300. *Wendy L. Freedman, Barry F. Madore, S. L. Hawley, Irwin K. Horowitz, Jeremy Mould, Mauricio Navarrete, & Shauna Sallmen.* 396, 80, 156-A13 (1992)

CCD Photometry in the Globular Cluster NGC 288. I. Blue Stragglers and Main-Sequence Binary Stars. *Michael Bolte.* 82, 145, 51-B7 (1992)

Intensive High-Precision Photometric Monitoring of the Variable WN6 Wolf-Rayet Star HD 191765. *I. I. Antokhin, T. R. Irsmambetova, A. F. J. Moffat, A. M. Cherepashchuk, & S. V. Marchenko.* 82, 395, 54-G9 (1992)

Photometric Imaging of VW Cephei. *Paul D. Hendry, Stefan W. Mochnacki, & Andrew Collier Cameron.* 399, 246, 198-C8 (1992)

TECHNIQUES: RADIAL VELOCITIES

Radial Velocities of Carbon Stars: CO versus Optical Measurements. *Cecilia Barnbaum.* 385, 694, 21-F10 (1992)

TECHNIQUES: SPECTROSCOPIC

Infrared Emission Spectra of Benzene and Naphthalene: Implications for the Interstellar Polycyclic Aromatic Hydrocarbon Hypothesis. *Jerrell D. Brenner & John R. Barker.* 388, L39, 52-D6 (1992)

The Comet-Tail (A–X) System of CO^+: Precise Molecular Constants of Its $X\,^2\Sigma^+$, $A\,^2\Pi_i$, and $B\,^2\Sigma^+$ States. *C. Haridass, C. V. V. Prasad, & S. Paddi Reddy.* 388, 669, 58-E1 (1992)

A Spectrophotometric Atlas of Galaxies. *Robert C. Kennicutt, Jr.* 79, 255, 17-F7 (1992)

A New Solar Irradiance Calibration from 3295 Å to 8500 Å Derived from Absolute Spectrophotometry of Vega. *G. W. Lockwood, H. Tüg, & N. M. White.* 390, 668, 83-E9 (1992)

Vacuum Ultraviolet Extinction Measurements on Cosmic Dust Analog Carbon Grains. *L. Colangeli, A. Blanco, S. Fonti, & E. Bussoletti.* 392, 284, 104-E1 (1992)

Submillimeter Spectrum of Low-Temperature Hydrogen: The Pure Translational Band of H_2 and the $R(0)$ Line of HD. *E. H. Wishnow, I. Ozier, & H. P. Gush.* 392, L43, 106-F1 (1992)

Measurement of CO Overtone Line Profiles in SVS 13. *John S. Carr & Alan T. Tokunaga.* 393, L67, 127-D7 (1992)

High-Resolution Photoabsorption Cross Sections of $E^1\Pi$–$X^1\Sigma^+$ Vibrational Bands of ^{12}CO and ^{13}CO. *G. Stark, P. L. Smith, K. Ito, & K. Yoshino.* 395, 705, 152-B5 (1992)

A New Library of Stellar Optical Spectra. *David R. Silva & Mark E. Cornell.* 81, 865, 48-A9 (1992)

Analysis of the Photospheric Epoch Spectra of Type Ia Supernovae SN 1990N and SN 1991T. *David J. Jeffery, Bruno Leibundgut, Robert P. Kirshner, Stefano Benetti, David Branch, & George Sonneborn.* 397, 304, 171-F4 (1992)

An Extension of the High-Resolution Millimeter- and Submillimeter-Wave Spectrum of Methanol to High Angular Momentum Quantum Numbers. *Todd Anderson, Eric Herbst, & Frank C. De Lucia.* 82, 405, 55-A9 (1992)

The Redshift Evolution of the Lyman-Alpha Forest: Blending Effects. *Dario Trevese, Emanuele Giallongo, & Luca Camurani.* 398, 491, 190-C1 (1992)

Microwave Spectra and Electric Dipole Moments for Low-J Levels of Interstellar Radicals: SO, C_2S, C_3S, c-HC_3, CH_2CC, and c-C_3H_2. *F. J. Lovas, R. D. Suenram, T. Ogata, & S. Yamamoto.* 399, 325, 199-D7 (1992)

Laboratory Measurement of the Millimeter and Submillimeter Wave Spectrum of $C_2H_3^+$. *M. Bogey, M. Cordonnier, C. Demuynck, & J. L. Destombes.* 399, L103, 201-E3 (1992)

TELESCOPES

High Rate for Type Ic Supernovae. *Richard A. Muller, Heidi Jo Marvin Newberg, Carlton R. Pennypacker, Saul Perlmutter, Timothy P. Sasseen, & Craig K. Smith.* 384, L9, 6-B7 (1992)

The Snapshot Survey: A Search for Gravitationally Lensed Quasars with the *Hubble Space Telescope*. *J. N. Bahcall, D. Maoz, R. Doxsey, D. P. Schneider, N. A. Bahcall, O. Lahav, & B. Yanny.* 387, 56, 37-F6 (1992)

Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339–4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)

Liquid Mirror Surface Aberrations. I. Wavefront Analysis. *Brad K. Gibson & Paul Hickson.* 391, 409, 91-B1 (1992)

The Case for Liquid Mirrors in Orbiting Telescopes. *Ermanno F. Borra.* 392, 375, 105-E7 (1992)

Optimal Grazing Incidence Optics and Its Application to Wide-Field X-Ray Imaging. *Christopher J. Burrows, Richard Burg, & Riccardo Giacconi.* 392, 760, 111-F13 (1992)

Liquid Mirrors: Optical Shop Tests and Contributions to the Technology. *E. F. Borra, R. Content, L. Girard, S. Szapiel, L. M. Tremblay, & E. Boily.* 393, 829, 126-C1 (1992)

The Ultraviolet Imaging Telescope: Design and Performance. *Theodore P. Stecher, Gerald R. Baker, Donna D. Bartoe, Frank H. Bauer, Albert Blum, Ralph C. Bohlin, Harvey R. Butcher, Peter C. Chen, Nicholas R. Collins, Robert H. Cornett, John J. Deily, Michael R. Greason, Gregory S. Hennessy, Jesse K. Hill, Robert S. Hill, Paul M. Hintzen, Joan E. Isensee, Peter J. Kenny, Wayne B. Landsman, David L. Linard, Stephen P. Maran, Susan G. Neff, Granville R. Nichols, Joseph Novello, Robert W. O'Connell, Joel D. Offenberg, Ronald A. Parise, Barbara B. Pfarr, Thomas B. Plummer, Foy F. Richardson, Morton S. Roberts, Susan D. Siitko, Andrew M. Smith, Alfred K. Stober, John D. Stolarik, & Jack C. Tebay.* 395, L1, 144-C7 (1992)

TURBULENCE

Faraday Rotation Measure Irregularities through the Supernova Remnant CTA 1: A Site of Enhanced Interstellar Plasma Turbulence. *John H. Simonetti.* 386, 170, 26-C3 (1992)

Galaxy-driven Turbulence and the Growth of Intracluster Magnetic Fields. *David S. De Young.* 386, 464, 31-B8 (1992)

Turbulence in Cooling Flows. *Catherine F. Westbury & R. N. Henriksen.* 388, 64, 49-G12 (1992)

Proton Acceleration in Neutron Star Magnetospheres. *I. A. Smith, J. I. Katz, & P. H. Diamond.* 388, 148, 50-G7 (1992)

Further Improvements of a New Model for Turbulent Convection in Stars. *V. M. Canuto & I. Mazzitelli.* 389, 724, 70-D1 (1992)

A Self-consistent Turbulent Model for Solar Coronal Heating. *J. Heyvaerts & E. R. Priest.* 390, 297, 77-F3 (1992)

Turbulent Convection with Overshooting: Reynolds Stress Approach. *V. M. Canuto.* 392, 218, 103-F1 (1992)

Atmospheric Fluctuations: Empirical Structure Functions and Projected Performance of Future Instruments. *M. Bester, W. C. Danchi, C. G. Degiacomi, L. J. Greenhill, & C. H. Townes.* 392, 357, 105-D1 (1992)

Dynamo Action in Stratified Convection with Overshoot. *Åke Nordlund, Axel Brandenburg, Richard L. Jennings, Michel Rieutord, Juha Ruokolainen, Robert F. Stein, & Ilkka Tuominen.* 392, 647, 110-C6 (1992)

Nonlinear Restrictions on Dynamo Action. *Samuel I. Vainshtein & Fausto Cattaneo.* 393, 165, 116-B5 (1992)

Swinging Spiral Waves and Alfvén Turbulence in Accretion Disks. *M. Tagger, R. Pellat, & F. V. Coroniti.* 393, 708, 124-F1 (1992)

Propagation Conditions of Relativistic Electrons in the Inner Heliosphere. *M.-B. Kallenrode, G. Wibberenz, & S. Hucke.* 394, 351, 132-C11 (1992)

Development of Magnetohydrodynamic Turbulence in Coronal Loops. *Daniel O. Gómez & Constantino Ferro Fontán.* 394, 662, 137-F8 (1992)

Pressure-confined Clumps in Magnetized Molecular Clouds. *Frank Bertoldi & Christopher F. McKee.* 395, 140, 142-A1 (1992)

Enhanced Damping of Alfvén Waves in the Solar Corona by a Turbulent Wave Spectrum. *Robert G. Kleva & J. F. Drake.* 395, 697, 152-A5 (1992)

The Spectrum of Random Magnetic Fields in the Mean Field Dynamo Theory of the Galactic Magnetic Field. *Russell M. Kulsrud & Stephen W. Anderson.* 396, 606, 165-A1 (1992)

Evidence for Transonic Flows in the Solar Granulation. *A. Nesis, T. J. Bogdan, F. Cattaneo, A. Hanslmeier, M. Knölker, & A. Malagoli.* 399, L99, 201-D10 (1992)

On the Virial Theorem for Turbulent Molecular Clouds. *Christopher F. McKee & Ellen G. Zweibel.* 399, 551, 204-F7 (1992)

Band Splitting in Solar Type II Radio Bursts. *R. A. Treumann & J. LaBelle.* 399, L167, 208-E7 (1992)

Fast Dynamos, Cosmic Rays, and the Galactic Magnetic Field. *E. N. Parker.* 401, 137, 222-F7 (1992)

Interstellar Cloud Shapes: A Minimum-Hypothesis Account Involving a Purely Gravitational Effect. *Robert C. Fleck, Jr.* 401, 146, 222-G3 (1992)

ULTRAVIOLET: GALAXIES

Hard X-Ray Tests of the Unified Model for an Ultraviolet-detected Sample of Seyfert 2 Galaxies. *John S. Mulchaey, Richard F. Mushotzky, & Kimberly A. Weaver.* 390, L69, 84-G1 (1992)

Lyα Emission from Cooling Flows and Measures of the Dust Content of Rich Clusters of Galaxies. *Esther M. Hu.* 391, 608, 95-E7 (1992)

From Fairall 9 to High-z Objects: Pattern of Change in Ionization Structure. *Wei Zheng, Li-Zhi Fang, & Luc Binette.* 392, 74, 102-A1 (1992)

Intergalactic Ionizing Flux from Active Galactic Nuclei. *Nobuo Terasawa.* 392, L15, 106-C1 (1992)

Hopkins Ultraviolet Telescope Observations of the Far-Ultraviolet Spectrum of NGC 4151. *G. A. Kriss, A. F. Davidsen, William P. Blair, C. W. Bowers, W. V. Dixon, S. T. Durrance, P. D. Feldman, H. C. Ferguson, R. C. Henry, R. A. Kimble, J. W. Kruk, Knox S. Long, H. W. Moos, & O. Vancura.* 392, 485, 108-C10 (1992)

Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548. *J. Clavel, K. Nandra, F. Makino, K. A. Pounds, G. A. Reichert, C. M. Urry, W. Wamsteker, M. Peracaula-Bosch, G. C. Stewart, & C. Otani.* 393, 113, 115-E1 (1992)

Ultraviolet Imaging Telescope Ultraviolet Images: Large-Scale Structure, H II Regions, and Extinction in M81. *Jesse K. Hill, Ralph C. Bohlin, Kwang-Ping Cheng, Paul M. N. Hintzen, Wayne B. Landsman, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L37, 145-B9 (1992)

Ultraviolet Imaging Telescope Observations of the Scl Galaxy NGC 628 (M74). *Peter C. Chen, Robert H. Cornett, Morton S. Roberts, Ralph C. Bohlin, Susan G. Neff, Robert W. O'Connell, Ronald A. Parise, Andrew M. Smith, & Theodore P. Stecher.* 395, L41, 145-C5 (1992)

The Ultraviolet Absorption Spectrum of the Quasar H1821+643 (z = 0.297). *John N. Bahcall, Buell T. Jannuzi, Donald P. Schneider, George F. Hartig, & Richard F. Green.* 397, 68, 168-G10 (1992)

An Objective Classification Scheme for QSO Spectra. *Paul J. Francis, Paul C. Hewett, Craig B. Foltz, & Frederic H. Chaffee.* 398, 476, 190-A13 (1992)

Seyfert Galaxy Ultraviolet Emission-Line Intensities and Variability: A Self-consistent Photoionization Analysis Applied to Broad-Line–emitting Gas in NGC 3783. *Anuradha P. Koratkar & Gordon M. MacAlpine.* 401, 110, 222-D3 (1992)

A Survey of Ultraviolet Variability in Blazars. *Rick Edelson.* 401, 516, 229-B1 (1992)

The Ultraviolet Color Gradient in the Late-Type Spiral Galaxy M33. *Wayne B. Landsman, Morton S. Roberts, Ralph C. Bohlin, Robert W. O'Connell, Andrew M. Smith, & Theodore P. Stecher.* 401, L83, 233-B3 (1992)

ULTRAVIOLET: GENERAL

Spatially Resolved Ultraviolet Spectroscopy of the Liner Galaxy NGC 3998. *G. A. Reichert, G. Branduardi-Raymont, A. V. Filippenko, K. O. Mason, E. M. Puchnarewicz, & C.-C. Wu.* 387, 536, 45-C11 (1992)

Partially Coherent Scattering in Stellar Chromospheres. III. A Second-Order Escape Probability Method. *K. G. Gayley.* 390, 583, 82-E5 (1992)

An Upper Limit on the Cosmic Ultraviolet Background. *Edward L. Wright.* 391, 34, 86-D11 (1992)

The Hopkins Ultraviolet Telescope: Performance and Calibration during the Astro-1 Mission. *Arthur F. Davidsen, Knox S. Long, Samuel T. Durrance, William P. Blair, Charles W. Bowers, Steven J. Conard, Paul D. Feldman, Henry C. Ferguson, Glen H. Fountain, Randy A. Kimble, Gerard A. Kriss, H. Warren Moos, & Kenneth A. Potocki.* 392, 264, 104-C1 (1992)

The Nature of the Recurrent Nova T Coronae Borealis: Ultraviolet Evidence for a White Dwarf Accretor. *Pier Luigi Selvelli, Angelo Cassatella, & Roberto Gilmozzi.* 393, 289, 117-F12 (1992)

A Multiwavelength Study of the Supernova Remnant N49 in the Large Magellanic Cloud. *Olaf Vancura, William P. Blair, Knox S. Long, & John C. Raymond.* 394, 158, 130-A1 (1992)

Evidence for Shock-heated Gas in the Hopkins Ultraviolet Telescope Spectrum of NGC 1068. *Gerard A. Kriss, Arthur F. Davidsen, William P. Blair, Henry C. Ferguson, & Knox S. Long.* 394, L37, 139-B7 (1992)

Ultraviolet Imaging Telescope Observations of the Cygnus Loop. *Robert H. Cornett, Edward B. Jenkins, Ralph C. Bohlin, Kwang-Ping Cheng, Theodore R. Gull, Robert W. O'Connell, Robert A. R. Parker, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L9, 144-D7 (1992)

Astro-1 Ultraviolet Imaging of the 30 Doradus and SN 1987A Fields with the Ultraviolet Imaging Telescope. *Kwang-Ping Cheng, Andrew G. Michalitsianos, Paul Hintzen, Ralph C. Bohlin, Robert W. O'Connell, Robert H. Cornett, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L29, 145-A1 (1992)

Ultraviolet Imaging Telescope Photometry of Massive Stars: The OB Association NGC 206 in M31. *Jesse K. Hill, Barbara B. Pfarr, Ralph C. Bohlin, Joan E. Isensee, Robert W. O'Connell, Susan G. Neff, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L33, 145-B1 (1992)

Ultraviolet Imaging of Old Populations in Nearby Galaxies. *Robert W. O'Connell, Ralph C. Bohlin, Nicholas R. Collins, Robert H. Cornett, Jesse K. Hill, Robert S. Hill, Wayne B. Landsman, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L45, 145-D1 (1992)

The Colorado *IUE* Active Galaxy Survey. I. Blazars. *Rick Edelson, Gregory F. Pike, Jon M. Saken, Anne Kinney, & J. Michael Shull.* 83, 1, 57-B1 (1992)

ULTRAVIOLET: INTERSTELLAR

The First Spectropolarimetric Study of the Wavelength Dependence of Interstellar Polarization in the Ultraviolet. *Geoffrey C. Clayton, Christopher M. Anderson, Antonio Mario Magalhães, Arthur D. Code, Kenneth H. Nordsieck, Marilyn R. Meade, Michael J. Wolff, Brian Babler, Karen S. Bjorkman, Regina E. Schulte-Ladbeck, MaryJane Taylor, & Barbara A. Whitney.* 385, L53, 23-D7 (1992)

On Graphite and the Variations in the Ultraviolet Extinction Curve. *Per A. Aannestad.* 386, 627, 33-B5 (1992)

Dense Clumps of Ionized Gas near π Scorpii, as Revealed by the Fine-Structure Excitation of N II. *Frank Bertoldi & Edward B. Jenkins.* 388, 495, 56-D9 (1992)

The Structure of the Inner Arcsecond of R Aquarii Observed with the *Hubble Space Telescope*. *Denis Burgarella & Francesco Paresce.* 389, L29, 66-D10 (1992)

The Interstellar Deuterium-to-Hydrogen Ratio: A Reevaluation of Lyman Absorption-Line Measurements. *Peter R. McCullough.* 390, 213, 76-E10 (1992)

Spectrophotometry of Bowen Resonance Fluorescence Lines in Three Planetary Nebulae. *C. R. O'Dell & Christopher O. Miller.* 390, 219, 76-F4 (1992)

Highly Ionized Atoms toward HD 93521. *Lyman Spitzer, Jr., & Edward L. Fitzpatrick.* 391, L41, 92-C11 (1992)

Vacuum Ultraviolet Extinction Measurements on Cosmic Dust Analog Carbon Grains. *L. Colangeli, A. Blanco, S. Fonti, & E. Bussoletti.* 392, 284, 104-E1 (1992)

Ultraviolet, Optical, and Infrared Observations of the High-Latitude Molecular Cloud toward HD 210121. *Daniel E. Welty & James R. Fowler.* 393, 193, 116-D13 (1992)

The Anomalous Extinction Curve in the Direction of ρ Ophiuchi from 950 to 1180 Å. *James C. Green, Theodore P. Snow, Timothy A. Cook, Webster C. Cash, & Orion Poplawski.* 395, 289, 143-E9 (1992)

Ultraviolet Imaging Telescope Images of the Reflection Nebula NGC 7023: Derivation of Ultraviolet Scattering Properties of Dust Grains. *Adolf N. Witt, Jens K. Petersohn, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L5, 144-D1 (1992)

Spatial Heterodyne Spectroscopy for the Exploration of Diffuse Interstellar Emission Lines at Far-Ultraviolet Wavelengths. *J. Harlander, R. J. Reynolds, & F. L. Roesler.* 396, 730, 166-D3 (1992)

Global O VI Line Emission from the Cygnus Loop Supernova Remnant and Direct Kinematic Measurement of the Associated Shock. *Andrew Rasmussen & Christopher Martin.* 396, L103, 167-E7 (1992)

CNO Abundances and Temperature Fluctuations in the Orion Nebula. *Donald K. Walter, Reginald J. Dufour, & J. Jeff Hester.* 397, 196, 170-D7 (1992)

Deviations of Interstellar Extinctions from the Mean R-dependent Extinction Law. *John S. Mathis & Jason A. Cardelli.* 398, 610, 191-F7 (1992)

Far-Ultraviolet Observations of the Crab Nebula Using the Hopkins Ultraviolet Telescope. *William P. Blair, Knox S. Long, Olaf Vancura, Charles W. Bowers, Sarah Conger, Arthur F. Davidsen, Gerard A. Kriss, & Richard B. C. Henry.* 399, 611, 205-E1 (1992)

Spectroscopy of a Balmer-dominated Filament in the Cygnus Loop with the Hopkins Ultraviolet Telescope. *Knox S. Long, William P. Blair, Olaf Vancura, Charles W. Bowers, Arthur F. Davidsen, & John C. Raymond.* 400, 214, 211-E8 (1992)

Far-Ultraviolet Observations of the Supernova Remnant N49 Using the Hopkins Ultraviolet Telescope. *Olaf Vancura, William P. Blair, Knox S. Long, Arthur F. Davidsen, Charles W. Bowers, W. Van Dyke Dixon, Samuel T. Durrance, Paul D. Feldman, Henry C. Ferguson, Richard C. Henry, Randy A. Kimble, Gerard A. Kriss, Jeffrey W. Kruk, & H. Warren Moos.* 401, 220, 223-G1 (1992)

Accurate Oscillator Strengths for Ultraviolet Lines of Ar I: Implications for Interstellar Material. *S. R. Federman, D. J. Beideck, R. M. Schectman, & D. G. York.* 401, 367, 225-E9 (1992)

Ultraviolet Observations of the Gas Phase Abundances in the Diffuse Clouds toward ζ Ophiuchi at 3.5 Kilometers per Second Resolution. *Blair D. Savage, Jason A. Cardelli, & Ulysses J. Sofia.* 401, 706, 231-C9 (1992)

ULTRAVIOLET: SOLAR SYSTEM

A Burst Model for Line Emission in the Solar Atmosphere. I. XUV Lines of He I and He II in Impulsive Flares. *J. M. Laming & U. Feldman.* 386, 364, 28-F8 (1992)

Mg IX Line Ratios in the Sun. *F. P. Keenan, E. S. Conlon, L. K. Harra, & K. G. Widing.* 386, 371, 28-G1 (1992)

Steady Siphon Flows in Closed Coronal Structures: Comparison with Extreme-Ultraviolet Observations. *G. Peres, D. Spadaro, & G. Noci.* 389, 777, 71-A8 (1992)

Element Abundances and Plasma Properties in a Coronal Polar Plume. *K. G. Widing & U. Feldman.* 392, 715, 111-B5 (1992)

The Potential for Plasma Diagnostics from Stellar Extreme-Ultraviolet Observations. *U. Feldman, P. Mandelbaum, J. F. Seely, G. A. Doschek, & H. Gursky.* 81, 387, 40-D3 (1992)

Interplanetary Lyman-α Spectra as a Diagnostic of the Local Interstellar Plasma Density: The Baranov Two-Shocks Heliosphere Case. *R. Lallement, Y. G. Malama, E. Quemerais, J. L. Bertaux, & N. A. Zaitzev.* 396, 696, 166-A7 (1992)

Pervasive Variability in the Quiet Solar Transition Region. *Douglas Rabin & James F. Dowdy, Jr.* 398, 665, 192-D1 (1992)

ULTRAVIOLET: STARS

A Magnitude-limited Survey of Cepheid Companions in the Ultraviolet. *Nancy Remage Evans.* 384, 220, 3-F4 (1992)

The Unusual Ultraviolet Chromospheric Spectrum of the R Coronae Borealis Star, V854 Centauri (NSV 6708), at Minimum Light. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, John S. Drilling, & P. G. Judge.* 384, L19, 6-C8 (1992)

The Luminosity of the Double-Mode Cepheid Y Carinae. *Nancy Remage Evans.* 385, 680, 21-E6 (1992)

Tomographic Separation of Composite Spectra. I. The Components of Plaskett's Star. *William G. Bagnuolo, Jr., Douglas R. Gies, & Michael S. Wiggs.* 385, 708, 21-G12 (1992)

The Origin of the Far-Ultraviolet Continuum in Solar and Stellar Flares. *K. J. H. Phillips, G. E. Bromage, & J. G. Doyle.* 385, 731, 22-B11 (1992)

Properties of the Massive X-Ray Binary 4U 1700−37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)

Improved Calculations for the C III λλ1907,1909 and Si III λλ1883,1892 Electron Density Sensitive Emission-Line Ratios, and a Comparison with *IUE* Observations. *F. P. Keenan, W. A. Feibelman, & K. A. Berrington.* 389, 443, 65-D5 (1992)

Fe II Fluorescence and Anomalous C IV Doublet Intensities in Symbiotic Novae. *A. G. Michalitsianos, M. Kafatos, & S. R. Meier.* 389, 649, 69-D12 (1992)

New Calibrators for the Cepheid Period-Luminosity Relation. *Nancy Remage Evans.* 389, 657, 69-E8 (1992)

Time Series Observations of O Stars. I. *IUE* Observations of Variability in the Stellar Wind of ζ Puppis. *R. K. Prinja, L. A. Balona, C. T. Bolton, R. A. Crowe, M. S. Fieldus, A. W. Fullerton, D. R. Gies, I. D. Howarth, D. McDavid, & A. H. N. Reid.* 390, 266, 77-C6 (1992)

The Constitution of the Atmospheric Layers and the Extreme Ultraviolet Spectrum of Hot Hydrogen-rich White Dwarfs. *Stéphane Vennes.* 390, 590, 82-F1 (1992)

The Sun as a Star: High Spectral Resolution Solar Data Degraded to Low-Dispersion *IUE* Resolution. *J. G. Doyle & J. W. Cook.* 391, 393, 90-G1 (1992)

Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

Iron Abundance in the Hot DA White Dwarfs Feige 24 and G191 B2B. *Stéphane Vennes, Pierre Chayer, John R. Thorstensen, Stuart Bowyer, & Harry L. Shipman.* 392, L27, 106-D5 (1992)

Spherically Symmetric, Expanding, Non–LTE Model Atmospheres for Novae during Their Early Stages. *P. H. Hauschildt, R. Wehrse, S. Starrfield, & G. Shaviv.* 393, 307, 118-A4 (1992)

Ultraviolet and Optical Spectral Morphology of Melnick 42 and Radcliffe 136a in 30 Doradus. *Nolan R. Walborn, Dennis C. Ebbets, Joel Wm. Parker, Joy Nichols-Bohlin, & Richard L. White.* 393, L13, 120-C1 (1992)

The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

Ultraviolet and Radio Observations of Milky Way Halo Gas. *Laura Danly, Felix J. Lockman, Marilyn R. Meade, & Blair D. Savage.* 81, 125, 36-F9 (1992)

The Orbital Parameters and the *IUE* Spectrum of the Single-lined Spectroscopic Binary HD 698. *Jorge Sahade, Rodolfo Barbá, & Yoji Kondo.* 81, 303, 39-B1 (1992)

Ultraviolet Observations of the Symbiotic Star AS 296. *A. Gutiérrez-Moreno, H. Moreno, & W. A. Feibelman.* 395, 295, 143-G1 (1992)

An Ultraviolet Imaging Telescope Study of the Globular Cluster M79 (NGC 1904). *Robert S. Hill, Jesse K. Hill, Wayne B. Landsman, Ralph C. Bohlin, K.-P. Cheng, Paul M. N. Hintzen, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, Eric P. Smith, & Theodore P. Stecher.* 395, L17, 144-F1 (1992)

The Ultraviolet-bright Stars of Omega Centauri, M3, and M13. *Wayne B. Landsman, Robert W. O'Connell, Jonathan H. Whitney, Ralph C. Bohlin, Robert S. Hill, Stephen P. Maran, Ronald A. Parise, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L21, 144-F9 (1992)

Observations of the Light Echoes from SN 1987A Using the *Astro-1* Ultraviolet Imaging Telescope. *Arlin P. S. Crotts, Wayne B. Landsman, Ralph C. Bohlin, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, & Theodore P. Stecher.* 395, L25, 144-G7 (1992)

Highly Ionized Gas in the Gum Nebula and Elsewhere: A Comparison of *IUE* and *Copernicus* Satellite Results. *Richard J. Edgar & Blair D. Savage.* 396, 124, 156-F4 (1992)

A Spectroscopic Search for Colliding Stellar Winds in O-Type Close Binary Systems. II. Plaskett's Star (HD 47129). *Michael S. Wiggs & Douglas R. Gies.* 396, 238, 158-A12 (1992)

Extreme Ultraviolet Spectroscopy of G191-B2B: Direct Observation of Ionization Edges. *Erik Wilkinson, James C. Green, & Webster Cash.* 397, L51, 173-F13 (1992)

Spectral Synthesis in the Ultraviolet. IV. A Library of Mean Stellar Groups. *Michael N. Fanelli, Robert W. O'Connell, David Burstein, & Chi-Chao Wu.* 82, 197, 52-A1 (1992)

Observations of R Coronae Borealis Stars in Decline: Empirical Arguments for Dust Formation near the Stellar Surface. *Geoffrey C. Clayton, Barbara A. Whitney, S. Adam Stanford, & John S. Drilling.* 397, 652, 179-B10 (1992)

The *Hubble Space Telescope* Observations of X-Ray Nova Muscae 1991 and Its Spectral Evolution. *F. H. Cheng, Keith Horne, N. Panagia, C. R. Shrader, R. Gilmozzi, F. Paresce, & N. Lund.* 397, 664, 179-C11 (1992)

Detection of a Proton Beam during the Impulsive Phase of a Stellar Flare. *Bruce E. Woodgate, Richard D. Robinson, Kenneth G. Carpenter, Stephen P. Maran, & Steven N. Shore.* 397, L95, 181-C1 (1992)

Extreme Ultraviolet Spectroscopy of Capella. *James C. Green, Erik Wilkinson, Thomas R. Ayres, & Webster Cash.* 397, L99, 181-C8 (1992)

A Multiwavelength Study of Nova QU Vulpeculae 1984. *Pedro Saizar, Sumner Starrfield, Gary J. Ferland, R. Mark Wagner, James W. Truran, Scott J. Kenyon, Warren M. Sparks, Robert E. Williams, & L. L. Stryker.* 398, 651, 192-B13 (1992)

Observations of Highly Ionized Gas in the Galactic Halo. *Kenneth R. Sembach & Blair D. Savage.* 83, 147, 58-G11 (1992)

An Interpretation of the Spectral Properties of Hot Hydrogen-rich White Dwarfs with Stratified H/He Model Atmospheres. *Stéphane Vennes & Gilles Fontaine.* 401, 288, 224-E7 (1992)

The Abundance of Boron in Three Halo Stars. *Douglas K. Duncan, David L. Lambert, & Michael Lemke.* 401, 584, 229-G6 (1992)

VIDEOTAPES

The Void Spectrum in Two-dimensional Numerical Simulations of Gravitational Clustering. *Guinevere Kauffmann & Adrian L. Melott.* 393, 415, 121-B1 (1992)

The Three-Point Function in an Ensemble of Numerical Simulations. *J. N. Fry, Adrian L. Melott, & Sergei F. Shandarin.* 393, 431, 121-C5 (1992)

Coherent Structures in the Universe and the Adhesion Model. *Lev Kofman, Dmitri Pogosyan, Sergei F. Shandarin, & Adrian L. Melott.* 393, 437, 121-D1 (1992)

Percolation Analysis of Nonlinear Structures in Scale-free Two-dimensional Simulations. *Kurt G. Dominik & Sergei F. Shandarin.* 393, 450, 121-E1 (1992)

Transformations of Galaxies. I. Mergers of Equal-Mass Stellar Disks. *Joshua E. Barnes.* 393, 484, 121-G9 (1992)

Off-Center Nuclei in Galaxies. *R. H. Miller & B. F. Smith.* 393, 508, 122-B7 (1992)

Three-dimensional Hydrodynamic Simulations of Narrow-Angle–Tail Radio Sources. I. The Begelman, Rees, and Blandford Model. *Dinshaw S. Balsara & Michael L. Norman.* 393, 631, 123-F3 (1992)

On the Differences between Plage and Quiet Sun in the Solar Photosphere. *Alan M. Title, Kenneth P. Topka, Theodore D. Tarbell, Wolfgang Schmidt, Christiaan Balke, & Göran Scharmer.* 393, 782, 125-E1 (1992)

X-RAYS: BURSTS

Thermal Structure of Neutron Stars with Very Low Accretion Rates. *J. L. Zdunik, P. Haensel, B. Paczyński, & J. Miralda-Escudé.* 384, 129, 2-E12 (1992)

The Fate of Accreted CNO Elements in Neutron Star Atmospheres: X-Ray Bursts and Gamma-Ray Lines. *Lars Bildsten, Edwin E. Salpeter, & Ira Wasserman.* 384, 143, 2-G1 (1992)

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)

Radiation Dynamics in X-Ray Binaries. I. Type 1 Bursts. *Mark A. Walker.* 385, 642, 21-B1 (1992)

Radiation Dynamics in X-Ray Binaries. II. Type 2 Bursts. *Mark A. Walker.* 385, 651, 21-B12 (1992)

Radiation Dynamics in X-Ray Binaries. III. Extremely Compact Objects. *Mark A. Walker.* 385, 661, 21-C10 (1992)

Transitions from Metastable Levels Emitted during Short-Duration Bursts: How Valid Are Their Calculated Intensities? *Uri Feldman.* 385, 758, 22-E1 (1992)

Light Curves of Rotating, Oscillating Neutron Stars. *T. E. Strohmayer.* 388, 138, 50-F9 (1992)

CNO Destruction by Spallation and Type I X-Ray Bursts. *Jason C. Tillett & James MacDonald.* 388, 555, 57-B7 (1992)

The X-Ray Outburst from X0115+634 in 1990 February. *Keisuke Tamura, Hiroshi Tsunemi, Shunji Kitamoto, Kiyoshi Hayashida, & Fumiaki Nagase.* 389, 676, 69-G1 (1992)

Characteristics of Hard X-Ray Spectra of Impulsive Solar Flares. *G. A. Dulk, A. L. Kiplinger, & R. M. Winglee.* 389, 756, 70-F11 (1992)

Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260. *D. Barret, L. Bouchet, P. Mandrou, J. P. Roques, B. Cordier, Ph. Laurent, F. Lebrun, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Khavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 394, 615, 137-B1 (1992)

Radiative-hydrodynamical Simulations of X-Ray Burst–induced Accretion Disk Coronae. *Fulvio Melia, Gregory J. Zylstra, & Bruce Fryxell.* 396, L27, 160-E8 (1992)

Stochastic Acceleration of Electrons. I. Effects of Collisions in Solar Flares. *Russell J. Hamilton & Vahé Petrosian.* 398, 350, 186-B5 (1992)

An Interpretation of the Multipeaked Structure in X-Ray Bursts. *Fulvio Melia & Gregory J. Zylstra.* 398, L53, 188-A1 (1992)

X-Ray Flashes from M31 Based on Extended Halo Models of Gamma-Ray Bursts. *Hui Li & Edison P. Liang.* 400, L59, 220-D3 (1992)

X-RAYS: GALAXIES

EXOSAT X-Ray Spectra of Quasars. *Andrea Comastri, Giancarlo Setti, Giovanni Zamorani, Martin Elvis, Paolo Giommi, Belinda J. Wilkes, & Jonathan C. McDowell.* 384, 62, 1-G1 (1992)

X-Ray Study of NGC 1399 in the Fornax Cluster of Galaxies. *Y. Ikebe, T. Ohashi, K. Makishima, T. Tsuru, G. Fabbiano, D.-W. Kim, G. Trinchieri, I. Hatsukade, K. Yamashita, & H. Kondo.* 384, L5, 6-B1 (1992)

Dark Matter in NGC 4472. *Michael Loewenstein.* 384, 474, 8-A9 (1992)

X-Ray Spectral Variability of the Seyfert I Galaxy NGC 4051. *Hideyo Kunieda, Satio Hayakawa, Yuzuru Tawara, Katsuji Koyama, Sachiko Tsuruta, & Karen Leighly.* 384, 482, 8-B5 (1992)

Microflare Heating of the Galactic Halo. *John C. Raymond.* 384, 502, 8-D1 (1992)

Distant Cooling Flows. *Megan Donahue, John T. Stocke, & Isabella M. Gioia.* 385, 49, 12-E13 (1992)

X-Ray Continuum and Line Emission of the Seyfert Galaxy MCG−5-23-16. *K. P. Singh, A. R. Rao, & M. N. Vahia.* 385, 132, 13-E10 (1992)

The Extended Medium Sensitivity Survey Distant Cluster Sample: X-Ray Data and Interpretation of the Luminosity Evolution. *J. P. Henry, I. M. Gioia, T. Maccacaro, S. L. Morris, J. T. Stocke, & A. Wolter.* 386, 408, 30-D13 (1992)

Abundance of Rich Clusters of Galaxies: A Test for Cosmological Parameters. *Per B. Lilje.* 386, L33, 36-B1 (1992)

A Comprehensive X-Ray Study of the Small Magellanic Cloud. *Qingde Wang & Xiaoyi Wu.* 78, 391, 7-G5 (1992)

The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

Interstellar Matter in Early-Type Galaxies. II. The Relationship between Gaseous Components and Galaxy Types. *Joel N. Bregman, David E. Hogg, & Morton S. Roberts.* 387, 484, 44-F9 (1992)

X-Ray Properties of Bright Far-Infrared Galaxies. *L. P. David, C. Jones, & W. Forman.* 388, 82, 50-B4 (1992)

Where Have All the Cluster Halos Gone? *Jack O. Burns, Martin E. Sulkanen, Galen R. Gisler, & Rick A. Perley.* 388, L49, 59-B1 (1992)

The X-Ray Spectra of High-Luminosity Active Galactic Nuclei Observed by *Ginga*. *O. R. Williams, M. J. L. Turner, G. C. Stewart, R. D. Saxton, T. Ohashi, K. Makishima, T. Kii, H. Inoue, F. Makino, K. Hayashida, & K. Koyama.* 389, 157, 62-A5 (1992)

EXOSAT Observations of the Broad-Line Radio Galaxy 3C 382. *K. K. Ghosh & S. Soundararajaperumal.* 389, 179, 62-C1 (1992)

The Properties of X-Ray Selected Active Galactic Nuclei. II. A Deeper Look at the Cosmological Evolution. *Roberto Della Ceca, Tommaso Maccacaro, Isabella M. Gioia, Anna Wolter, & John T. Stocke.* 389, 491, 67-E8 (1992)

X-Ray–emitting Filaments in the Cooling Flow Cluster A2029. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 389, L59, 73-C8 (1992)

A2163: An Exceptionally Hot Cluster of Galaxies. *M. Arnaud, J. P. Hughes, W. Forman, C. Jones, M. Lachieze-Rey, K. Yamashita, & I. Hatsukade.* 390, 345, 79-E1 (1992)

The Braided Jets in the Spiral Galaxy NGC 4258. *Gerald Cecil, Andrew S. Wilson, & R. Brent Tully.* 390, 365, 79-G1 (1992)

Hard X-Ray Tests of the Unified Model for an Ultraviolet-detected Sample of Seyfert 2 Galaxies. *John S. Mulchaey, Richard F. Mushotzky, & Kimberly A. Weaver.* 390, L69, 84-G1 (1992)

The Contribution of Galaxy Clusters to the Soft X-Ray Background. *A. Blanchard, K. Wachter, A. E. Evrard, & Joseph Silk.* 391, 1, 86-B1 (1992)

Evidence for an Ionized Reprocessor in NGC 6814. *T. Jane Turner, Christine Done, Richard Mushotzky, Greg Madejski, & Hideyo Kunieda.* 391, 102, 87-C4 (1992)

An X-Ray Image of the Seyfert Galaxy NGC 1068. *A. S. Wilson, M. Elvis, A. Lawrence, & J. Bland-Hawthorn.* 391, L75, 99-E11 (1992)

A Deep Image of the Diffuse Soft X-Ray Background at the Galactic Plane. *Qingde Wang.* 392, 509, 108-E11 (1992)

An X-Ray Catalog and Atlas of Galaxies. *G. Fabbiano, D.-W. Kim, & G. Trinchieri.* 80, 531, 31-A11 (1992)

The X-Ray Spectra of Galaxies. I. Spectral Fits of Individual Galaxies and X-Ray Colors. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 80, 645, 32-D7 (1992)

Correlated Hard X-Ray and Ultraviolet Variability in NGC 5548. *J. Clavel, K. Nandra, F. Makino, K. A. Pounds, G. A. Reichert, C. M. Urry, W. Wamsteker, M. Peracaula-Bosch, G. C. Stewart, & C. Otani.* 393, 113, 115-E1 (1992)

The X-Ray Spectra of Galaxies. II. Average Spectral Properties and Emission Mechanisms. *D.-W. Kim, G. Fabbiano, & G. Trinchieri.* 393, 134, 115-F12 (1992)

Characteristic-based Models for the Evolution of Cooling Flows. *Stephen D. Murray & Steven A. Balbus.* 395, 99, 141-C11 (1992)

Using Electron Scattering to Probe the Environment of Cluster Cooling Flows. *Michael W. Wise & Craig L. Sarazin.* 395, 387, 147-B5 (1992)

X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

A New Hard X-Ray Source 15′ Away from 3C 273? *E. Jourdain, L. Bassani, J. P. Roques, P. Mandrou, J. Ballet, A. Claret, A. Goldwurm, F. Lebrun, A. Finogenov, E. Churazov, M. Gilfanov, R. Sunyaev, A. Dyachkov, N. Khavenson, B. Novikov, & N. Kuleshova.* 395, L69, 153-F6 (1992)

Active Galactic Nuclei with Ultrasoft X-Ray Emission. *F. A. Córdova, J. F. Kartje, R. J. Thompson, Jr., K. O. Mason, E. M. Puchnarewicz, & F. R. Harnden, Jr.* 81, 661, 45-A11 (1992)

SIGMA Observation of Two Quasars: 3C 273 and 0241+62. *L. Bassani, E. Jourdain, J. P. Roques, L. Bouchet, J. Ballet, F. Lebrun, Ph. Laurent, B. Cordier, R. Sunyaev, E. Churazov, M. Gilfanov, A. Finogenov, A. Dyachkov, N. Khavenson, B. Novikov, & I. Chulkov.* 396, 504, 163-F11 (1992)

X-Ray and Optical Emission-Line Filaments in the Cooling Flow Cluster 2A 0335+096. *Craig L. Sarazin, Robert W. O'Connell, & Brian R. McNamara.* 397, L31, 173-D10 (1992)

X-Ray Luminosity and Spectral Variability of Hard X-Ray–selected Active Galactic Nuclei. *P. Grandi, G. Tagliaferri, P. Giommi, P. Barr, & G. G. C. Palumbo.* 82, 93, 50-C9 (1992)

Clusters in Collision? *M. P. Ulmer, G. D. Wirth, & M. P. Kowalski.* 397, 430, 176-A9 (1992)

High-Energy X Emission from the Coma Cluster. *Yoel Rephaeli & Oleg Goldshmidt.* 397, 438, 176-B6 (1992)

The X-Ray Spectrum of Abell 665. *John P. Hughes & Yasuo Tanaka.* 398, 62, 182-G1 (1992)

X-Ray Spectra of Bright Core-dominant Quasars: NRAO 140 and 4C 34.47. *T. Ohashi, M. Tashiro, K. Makishima, T. Kii, F. Makino, M. J. L. Turner, & O. R. Williams.* 398, 87, 183-B1 (1992)

Nonthermal Electron-Positron Pairs and the Break in the Hard X-Ray Spectrum of NGC 4151. *Paolo S. Coppi & Andrzej A. Zdziarski.* 398, L37, 187-F1 (1992)

X-Ray Observations of the Seyfert 1 Galaxy MCG 2-58-22. *K. K. Ghosh & S. Soundararajaperumal.* 398, 501, 190-D1 (1992)

The Nucleus of M31. *Fulvio Melia.* 398, L95, 194-C8 (1992)

X-Ray Emission from SN 1986J in NGC 891. *Joel N. Bregman & Rachel A. Pildis.* 398, L107, 194-E7 (1992)

Hard X-Ray Emission from a Narrow-Line Radio Galaxy IC 5063 and Obscured Active Nucleus. *Katsuji Koyama, Hisamitu Awaki, Kazushi Iwasawa, & Martin J. Ward.* 399, L129, 208-A9 (1992)

The X-Ray Variability of NGC 6814: Power Spectrum. *C. Done, G. M. Madejski, R. F. Mushotzky, T. J. Turner, K. Koyama, & H. Kunieda.* 400, 138, 210-F1 (1992)

The BL Lacertae Object PKS 1413+135: Is It within or behind a Spiral Galaxy? *John T. Stocke, Ron Wurtz, Qingde Wang, Richard Elston, & Buell T. Jannuzi.* 400, L17, 214-C5 (1992)

X-Ray Constraints on the Shape of the Dark Matter in Five Abell Clusters. *David A. Buote & Claude R. Canizares.* 400, 385, 215-B3 (1992)

Analysis of Soft X-Ray Excesses of Quasi-stellar Objects by Using Their IPC Spectra. *Y. Y. Zhou & K. N. Yu.* 400, 430, 215-F1 (1992)

X-RAYS: GENERAL

Variability of the Galactic Center in the Hard X-Ray Range. *A. Bazzano, C. La Padula, P. Ubertini, & R. K. Sood.* 385, L17, 17-C1 (1992)

The Semicircular Shell of CTB 109. *Zhenru Wang, Quinyue Qu, Ding Luo, Richard McCray, & Mordecai-Mark Mac Low.* 388, 127, 50-E10 (1992)

On the Optical Counterpart of 1E 1207.4−5209, the Central X-Ray Source of a Ring-shaped Supernova Remnant. *Giovanni F. Bignami, Patrizia A. Caraveo, & Sandro Mereghetti.* 389, L67, 73-D5 (1992)

X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line. *R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, S. Grebenev, R. Kremnev, K. Sukhanov, A. Goldwurm, J. Ballet, B. Cordier, J. Paul, M. Denis, G. Vedrenne, M. Niel, & E. Jourdain.* 389, L75, 73-E1 (1992)

SIGMA/*GRANAT* Soft Gamma-Ray Observations of the X-Ray Nova in Musca: Discovery of Positron Annihilation Emission Line. *A. Goldwurm, J. Ballet, B. Cordier, J. Paul, L. Bouchet, J. P. Roques, D. Barret, P. Mandrou, R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, V. Kovtunenko, R. Kremnev, & K. Sukhanov.* 389, L79, 73-E6 (1992)

L-Shell X-Ray Opacity of Many-Electron Atoms. *Young-Dae Jung & Robert J. Gould.* 391, 403, 91-A7 (1992)

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

Optimal Grazing Incidence Optics and Its Application to Wide-Field X-Ray Imaging. *Christopher J. Burrows, Richard Burg, & Riccardo Giacconi.* 392, 760, 111-F13 (1992)

The Particle Background of the *ROSAT* PSPC. *S. L. Snowden, P. P. Plucinsky, U. Briel, G. Hasinger, & E. Pfeffermann.* 393, 819, 126-B1 (1992)

A Jet Model for the Gamma-Ray–emitting Blazar 3C 279. *L. Maraschi, G. Ghisellini, & A. Celotti.* 397, L5, 173-B4 (1992)

Oriented Scintillation Spectrometer Experiment Observations of ^{57}Co in SN 1987A. *J. D. Kurfess, W. N. Johnson, R. L. Kinzer, R. A. Kroeger, M. S. Strickman, J. E. Grove, M. D. Leising, D. D. Clayton, D. A. Grabelsky, W. R. Purcell, M. P. Ulmer, R. A. Cameron, & G. V. Jung.* 399, L137, 208-B7 (1992)

Light Element Nucleosynthesis: A False Clue? *N. Yu. Gnedin & J. P. Ostriker.* 400, 1, 209-A13 (1992)

Photoelectric Absorption Cross Sections with Variable Abundances. *Monika Balucińska-Church & Dan McCammon.* 400, 699, 219-B11 (1992)

X-RAYS: INTERSTELLAR

Discovery of X-Ray Emission Associated with the Gum Nebula. *D. A. Leahy, J. Nousek, & G. Garmire.* 385, 561, 20-B4 (1992)

A New Scheme for Multidimensional Line Transfer. II. ETLA Method in One Dimension with Application to Iron Kα Lines. *John I. Castor, Pieter G. Dykema, & Richard I. Klein.* 387, 561, 45-F1 (1992)

ROSAT Wide Field Camera Minisurvey of the Diffuse Sky Background in 90–188 eV Soft X-Rays. *R. Lieu, J. J. Quenby, S. D. Sidher, T. J. Sumner, R. Willingale, R. G. West, A. W. Harris, S. L. Snowden, & K. Bickert.* 397, 158, 170-A1 (1992)

The Soft X-Ray Diffuse Background Observed with the *HEAO 1* Low-Energy Detectors. *G. P. Garmire, J. A. Nousek, K. M. V Apparao, D. N. Burrows, R. L. Fink, & R. P. Kraft.* 399, 694, 206-E1 (1992)

The Radio Counterpart of the Hard X-Ray Source GRS 1758−258. *L. F. Rodríguez, I. F. Mirabel, & J. Martí.* 401, L15, 227-C1 (1992)

X-RAYS: STARS

A Reanalysis of the Orbital Inclination of Cygnus XR-1 Determined Polarimetrically. *Joseph F. Dolan.* 384, 249, 4-A9 (1992)

Is There a Recycled Old Pulsar in Cygnus X-3? *Abhas Mitra.* 384, 255, 4-B3 (1992)

Time Variations in the X-Rays from Cygnus X-3 Observed with *Ginga*. *Shunji Kitamoto, Seiko Mizobuchi, Koujun Yamashita, & Hiroshi Nakamura.* 384, 263, 4-B13 (1992)

Disk Instability and Outburst Properties of the Intermediate Polar GK Persei. *Soon-Wook Kim, J. Craig Wheeler, & Shin Mineshige.* 384, 269, 4-C7 (1992)

A Study of the Stellar Population in the Chamaeleon Dark Clouds. *Lisa S. Gauvin & Karen M. Strom.* 385, 217, 14-F1 (1992)

Simultaneous X-Ray and Radio Observations of GX 5−1. *J. Tan, W. H. G. Lewin, R. M. Hjellming, W. Penninx, J. van Paradijs, M. van der Klis, & K. Mitsuda.* 385, 314, 15-G1 (1992)

Low-Mass X-Ray Binary Evolution and the Origin of Millisecond Pulsars. *Juhan Frank, Andrew R. King, & Jean-Pierre Lasota.* 385, L45, 23-C8 (1992)

Colliding Winds from Early-Type Stars in Binary Systems. *Ian R. Stevens, John M. Blondin, & A. M. T. Pollock.* 386, 265, 27-E1 (1992)

On the Power Spectra of the Wind-fed X-Ray Binary Pulsar GX 301−2. *Mauro Orlandini & G. E. Morfill.* 386, 703, 34-A9 (1992)

Hard X-Ray Observation of Scorpius X-1. *P. Ubertini, A. Bazzano, M. Cocchi, C. La Padula, & R. K. Sood.* 386, 710, 34-B4 (1992)

A Comprehensive X-Ray Study of the Small Magellanic Cloud. *Qingde Wang & Xiaoyi Wu.* 78, 391, 7-G5 (1992)

The Spectral Archive of Cosmic X-Ray Sources Observed by the *Einstein Observatory* Focal Plane Crystal Spectrometer. *Kenneth S. K. Lum, Claude R. Canizares, George W. Clark, Joan M. Coyne, Thomas H. Markert, Pablo J. Saez, Mark L. Schattenburg, & P. Frank Winkler.* 78, 423, 8-E11 (1992)

Properties of the Massive X-Ray Binary 4U 1700−37 = HD 153919. *S. R. Heap & M. F. Corcoran.* 387, 340, 41-B11 (1992)

X-Ray Activity as Statistical Age Indicator: The Disk G–K Giants. *G. Micela, A. Maggio, & G. S. Vaiana.* 388, 171, 51-B5 (1992)

Energy Dependence of Normal Branch Quasi-periodic Intensity Oscillations in Low-Mass X-Ray Binaries. *Guy S. Miller & Frederick K. Lamb.* 388, 541, 57-A5 (1992)

Time Variability Studies with Photon-counting Imaging Detectors. I. A Maximum Likelihood Technique. *S. Sciortino & G. Micela.* 388, 595, 57-E11 (1992)

ROSAT X-Ray All-Sky Survey Observations of Hybrid Stars. *Bernhard Haisch, J. H. M. M. Schmitt, & C. Rosso.* 388, L61, 59-C7 (1992)

Hard X-Ray Imaging of the Galactic Black Hole Candidate GX 339−4. *C. E. Covault, J. E. Grindlay, & R. P. Manandhar.* 388, L65, 59-C12 (1992)

Stellar Wind Collision and X-Ray Generation in Massive Binaries. *V. V. Usov.* 389, 635, 69-C10 (1992)

X-Ray Scattering and Fluorescence in the Wind of a Massive X-Ray Binary. *W. Lewis, S. Rappaport, A. Levine, & F. Nagase.* 389, 665, 69-F3 (1992)

H0538+608 (= BY Camelopardalis): An Asynchronously Rotating AM Herculis Binary? *A. Silber, H. V. Bradt, M. Ishida, T. Ohashi, & R. A. Remillard.* 389, 704, 70-B7 (1992)

X-Ray Nova in Musca (GRS 1124−68): Hard X-Ray Source with Narrow Annihilation Line. *R. Sunyaev, E. Churazov, M. Gilfanov, A. Dyachkov, N. Khavenson, S. Grebenev, R. Kremnev, K. Sukhanov, A. Goldwurm, J. Ballet, B. Cordier, J. Paul, M. Denis, G. Vedrenne, M. Niel, & E. Jourdain.* 389, L75, 73-E1 (1992)

Steady, Periodic Gamma-Ray Emission from Accreting X-Ray Pulsars. *K. S. Cheng, M. M. Lau, T. Cheung, P. P. Leung, & K. Y. Ding.* 390, 480, 81-C8 (1992)

The Constitution of the Atmospheric Layers and the Extreme Ultraviolet Spectrum of Hot Hydrogen-rich White Dwarfs. *Stéphane Vennes.* 390, 590, 82-F1 (1992)

Thermonuclear Flash Model for Long X-Ray Tails from Aquila X-1. *Ikko Fushiki, Ronald E. Taam, S. E. Woosley, & D. Q. Lamb.* 390, 634, 83-B9 (1992)

What Drives the Mass Transfer in Cygnus X-3? *Abhas Mitra.* 390, 645, 83-C8 (1992)

X-Ray Spectrum and Time Variation of X1850−087 in the Globular Cluster NGC 6712. *Shunji Kitamoto, Hiroshi Tsunemi, & Diane Roussel-Dupre.* 391, 220, 88-F7 (1992)

Periodic Variability in the Optical Counterpart of X-Ray Nova Muscae 1991. *Charles D. Bailyn.* 391, 298, 89-F1 (1992)

X-Ray Emission-Line Spectra of Photoionized Plasmas: Density Sensitivity of the Fe L-Shell Series. *Duane A. Liedahl, Steven M. Kahn, Albert L. Osterheld, & William H. Goldstein.* 391, 306, 89-F11 (1992)

Canonical Time Variations of X-Rays from Black Hole Candidates in the Low-Intensity State. *Sigenori Miyamoto, Shunji Kitamoto, Sayuri Iga, Hitoshi Negoro, & Kentaro Terada.* 391, L21, 92-B1 (1992)

Disk Instability and the Time-dependent X-Ray Emission from the Intermediate Polar GK Persei. *Insu Yi, Soon-Wook Kim, Ethan T. Vishniac, & J. Craig Wheeler.* 391, L25, 92-B6 (1992)

The *Einstein* Slew Survey. *Martin Elvis, David Plummer, Jonathan Schachter, & G. Fabbiano.* 80, 257, 25-E9 (1992)

Modeling the Stellar Contribution to the Galactic Component of the Diffuse Soft X-Ray Background. I. Background Fluxes and Number Counts. *V. Kashyap, R. Rosner, G. Micela, S. Sciortino, G. S. Vaiana, & F. R. Harnden, Jr.* 391, 667, 96-C12 (1992)

X-Ray to Infrared Observations of the Cataclysmic Variable KO Velorum (E1013−477). *R. M. Sambruna, L. Chiappetti, A. Treves, J. M. Bonnet-Bidaud, P. Bouchet, L. Maraschi, C. Motch, M. Mouchet, & S. Van Amerongen.* 391, 750, 97-C9 (1992)

Coordinated *Ginga*, *IUE*, and VLA Observations of Stellar Activity in σ^2 Coronae Borealis. *R. A. Stern, Y. Uchida, F. Walter, O. Vilhu, D. Hannikainen, A. Brown, A. Veale, & B. M. Haisch.* 391, 760, 97-D7 (1992)

Rapid Oscillations in Cataclysmic Variables. VIII. YY Draconis (=3A 1148+719. *J. Patterson, D. A. Schwartz, J. P. Pye, W. P. Blair, G. A. Williams, & J.-P. Caillault.* 392, 233, 103-G3 (1992)

SIGMA Observation of Hard X-Ray Emission from the Ultrasoft X-Ray Transient Triangulum Australe X-1 (A1524−62). *D. Barret, J. P. Roques, P. Mandrou, L. Bouchet, F. Lebrun, A. Goldwurm, P. Laurent, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Kavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 392, L19, 106-C7 (1992)

Deep VLA Images of Globular Clusters: NGC 6624. *Helen M. Johnston & Shrinivas R. Kulkarni.* 393, L17, 120-C8 (1992)

On the Role of Radioactive Decays in Powering Gamma Rays and X-Rays from Novae. *Mario Livio, Apostolos Mastichiadis, Hakki Ögelman, & James W. Truran.* 394, 217, 130-F5 (1992)

Column Accretion with Radiation Drag and the Two-Branch Spectrum of the Low-Mass X-Ray Binary GX 5−1. *J. H. You, T. Lu, C. Y. Wei, & T. G. Wang.* 394, 283, 131-E1 (1992)

The Coolest DA White Dwarfs Detected at Soft X-Ray Wavelengths. *K. M. Kidder, J. B. Holberg, M. A. Barstow, R. W. Tweedy, & F. Wesemael.* 394, 288, 131-E7 (1992)

The Cooling of Neutron Stars by the Direct Urca Process. *Dany Page & James H. Applegate.* 394, L17, 133-C7 (1992)

ROSAT Observations of PSR 0656+14: A Pulsating and Cooling Neutron Star. *John P. Finley, Hakki Ögelman, & Ümit Kiziloğlu.* 394, L21, 133-C13 (1992)

Discovery and X-Ray Properties of GS 1124−683 (=Nova Muscae). *Shunji Kitamoto, Hiroshi Tsunemi, Sigenori Miyamoto, & Kiyoshi Hayashida.* 394, 609, 137-A6 (1992)

Sigma Detection of Hard X-Ray Emission from the Soft Transient Type I X-Ray Burster KS 1731−260. *D. Barret, L. Bouchet, P. Mandrou, J. P. Roques, B. Cordier, Ph. Laurent, F. Lebrun, J. Paul, R. Sunyaev, E. Churazov, M. Gilfanov, A. Diachkov, N. Khavenson, B. Novikov, I. Chulkov, & A. Kuznetsov.* 394, 615, 137-B1 (1992)

VLBI Observations of the X-Ray Binary LS I +61°303. *A. R. Taylor, H. T. Kenny, R. E. Spencer, & A. Tzioumis.* 395, 268, 143-D11 (1992)

An Ionized Accretion Disk in Cygnus X-1. *C. Done, J. S. Mulchaey, R. F. Mushotzky, & K. A. Arnaud.* 395, 275, 143-E5 (1992)

X-Ray Spectral Structure of the Seyfert Galaxy NGC 6814. *M. Yamauchi, M. Matsuoka, N. Kawai, & A. Yoshida.* 395, 453, 148-A13 (1992)

The Polar Cap Structure of the X-Ray Pulsar 4U 1538−52. *T. Bulik, P. Mészáros, J. W. Woo, F. Nagase, & K. Makishima.* 395, 564, 149-G9 (1992)

X-Ray Emission from Single Magnetic Early-Type Stars. *V. V. Usov & D. B. Melrose.* 395, 575, 150-B1 (1992)

Long-Term Variability in Low-Mass X-Ray Binaries: A Study Using Data from *Vela 5B*. *Alan P. Smale & James C. Lochner.* 395, 582, 150-B13 (1992)

An *Einstein Observatory* SAO-based Catalog of B-Type Stars. *F. Grillo, S. Sciortino, G. Micela, G. S. Vaiana, & F. R. Harnden, Jr.* 81, 795, 46-G13 (1992)

Ginga Observations of Centaurus X-3. *F. Nagase, R. H. D. Corbet, C. S. R. Day, H. Inoue, T. Takeshima, K. Yoshida, & T. Mihara.* 396, 147, 157-A3 (1992)

X-Ray Variability of Scorpius X-1 during a Multiwavelength Campaign. *P. Hertz, B. Vaughan, K. S. Wood, J. P. Norris, K. Mitsuda, P. F. Michelson, & T. Dotani.* 396, 201, 157-E12 (1992)

Radio Continuum and X-Ray Properties of the Coronae of RS Canum Venaticorum and Related Active Binary Systems. *Stephen A. Drake, Theodore Simon, & Jeffrey L. Linsky.* 82, 311, 53-F5 (1992)

X-Ray Observations of Planetary Nebulae with Binary Nuclei. *K. M. V. Apparao, G. D. Berthiaume, & J. A. Nousek.* 397, 534, 177-E5 (1992)

Observation of A0535+26 at Energies above 150 keV with the Figaro II Experiment. *G. Cusumano, T. Mineo, B. Sacco, L. Scarsi, G. Gerardi, B. Agrinier, E. Barouch, R. Comte, B. Parlier, J. L. Masnou, E. Massaro, G. Matt, E. Costa, M. Salvati, P. Mandrou, M. Niel, & J. F. Olive.* 398, L103, 194-E1 (1992)

Evidence for a Black Hole in the X-Ray Binary Nova Muscae 1991. *Ronald A. Remillard, Jeffrey E. McClintock, & Charles D. Bailyn.* 399, L145, 208-C7 (1992)

First Results from *ROSAT* All-Sky Survey Observations of the Hyades Cluster. *Robert A. Stern, Jürgen H. M. M. Schmitt, Cristina Rosso, John P. Pye, Simon T. Hodgkin, & John R. Stauffer.* 399, L159, 208-D9 (1992)

Ginga Observations of X-Ray Flares on Algol. *R. A. Stern, Y. Uchida, S. Tsuneta, & F. Nagase.* 400, 321, 212-G13 (1992)

Ginga Observations of the Dipping Low-Mass X-Ray Binaries XB 1916−053 and EXO 0748−676. *Alan P. Smale, Koji Mukai, O. Rees Williams, Mark H. Jones, & Robin H. D. Corbet.* 400, 330, 213-A10 (1992)

The Infrared Counterpart of the Eclipsing X-Ray Binary H0253+193. *B. Zuckerman, E. E. Becklin, I. S. McLean, & Joseph Patterson.* 400, 665, 218-F7 (1992)

EXOSAT Observations of the Be/X-Ray Binary 4U 2206+54. *Priyamvada Saraswat & Krishna M. V. Apparao.* 401, 678, 231-A1 (1992)

EXOSAT Observations of the X-Ray Binary Pulsar 4U 1538−52. *N. R. Robba, G. Cusumano, M. Orlandini, D. Dal Fiume, & F. Frontera.* 401, 685, 231-A10 (1992)

Periodic Photometric Variability of the Black Hole Binary V404 Cygni. *R. Mark Wagner, T. J. Kreidl, S. B. Howell, & S. G. Starrfield.* 401, L97, 233-C13 (1992)